SMALL BUSINESS INNOVATION RESEARCH / SMALL BUSINESS TECHNOLOGY TRANSFER






Annual Report FISCAL YEAR 2014

SBIR·STTR America's Seed Fund™ POWERED BY SBA

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MESSAGE FROM THE SBA ADMINISTRATOR

Small businesses are the innovators and job creators of our nation, and my goal as Administrator of the Small Business Administration (SBA) is to ensure they have the support they need to propel our economy forward. Two of the most important tools SBA has for delivering on that goal are the Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) Programs, also known as "America's Seed Fund." Through America's Seed Fund, eleven participating agencies annually award $2.5 billion in non-dilutive funding to small businesses that are driving innovation. I am proud to deliver this new and comprehensive analysis of these Programs for Fiscal Year 2014.

SBIR and STTR award recipients are changing the world. They are creating life-saving drugs, developing manufacturing processes, and advancing technology that allows greater exploration of our farthest reaches, from the oceans to the cosmos. When we invest in innovation, America thrives.

Small businesses create two out of every three new jobs and define our nation's entrepreneurial spirit. They have driven a record 78 consecutive months of job growth. With our entire team at SBA, I am proud to advocate on behalf of the 28 million small businesses. As an entrepreneur myself, I have walked in their shoes and know the joys and challenges they face. I look forward to doing even more to ensure entrepreneurs have access to the capital and services they need to succeed, and to uphold the responsibility of delivering value to the taxpayers of America.

Warm regards,

Linda E. McMahon
Administrator
U.S. Small Business Administration

U.S. Small Business Administration (SBA) Overview

The SBA is charged with reviewing the progress of the SBIR/STTR Programs across the Federal Government, serving as the coordinating agency for all participating SBIR and STTR agencies (Participating Agencies). The SBA's Office of Technology, within the Office of Investment and Innovation (OII), oversees the SBIR/STTR Participating Agencies in their individual program implementations, provides policy guidance and directives as authorized by statute, reviews Particpating Agency progress and performance, collects required annual reporting data, and reports to the U.S. Congress. The SBA administers the program with maximum flexibility, allowing the Particpating Agencies to tailor their SBIR/STTR activities in ways that best address their unique agency missions, cultures, and R/R&D needs. The SBA issues Policy Directives to provide guidance that governs the Particpating Agencies' program implementation, compliance, and reporting. The SBA maintains updated versions of the SBIR and STTR Program Policy Directives at www.SBIR.gov.

THE SBA'S SBIR/STTR PROGRAM INFORMATION DATABASE – WWW.SBIR.GOV

The SBA maintains the central, SBIR/STTR Program-wide database of award and performance information, collectively referred to as www.SBIR.gov. The primary purpose of the continual investment in SBIR.gov is to both meet the statutory requirement in 15 USC §638 (k)(1) of developing, maintaining, and make available to the public a searchable, up-to-date, electronic database that includes—

(A) the name, size, location, and an identifying number assigned by the Administrator, of each small business concern that has received a Phase I or Phase II SBIR or STTR award from a Federal agency;

(B) a description of each Phase I or Phase II SBIR or STTR award received by that small business concern, including—

(i) an abstract of the project funded by the award, excluding any proprietary information so identified by the small business concern;

(ii) the Federal agency making the award; and

(iii) the date and amount of the award; and to also provide interested stakeholders with a one-stop-shop repository of valuable and searchable SBIR/STTR Program information.

The complex platform collects and hosts multiple levels of programmatic information across the following seven relational databases and as required by 15 USC §638(b)(7)(G), SBA describes the extent to which Federal agencies are providing information in a timely manner needed to maintain these databases:

- *Solicitations:* All SBIR/STTR solicitations and topics from all Particpating Agencies are provided to SBA prior to each agency's solicitation release. All agencies provide this information in a timely manner.
- *Applications:* All SBIR/STTR proposals from all Particpating Agencies are collected by SBA during the annual reporting cycle. All agencies provided SBA all awarded proposal information in a timely manner. SBA has started to work with the Particpating Agencies to collect unawarded proposal coversheet data.
- *Awards:* All SBIR/STTR awards from all Particpating Agencies by number and dollar amount are collected on an annual basis. Not all agencies have provided this information in a timely manner (see Annual Report section immediately following).
- *Annual Report:* All Particpating Agencies are required to report SBIR/STTR activities to the SBA on an annual basis by March 15 for the previous fiscal year. ED, EPA, and DHS were timely and submitted prior to the due date while the other eight agencies (DOD, HHS, NASA, DOE, NSF, USDA, DOT, and DOC) were not timely and submitted after the due date. In FY13 and FY14, improvements to SBA's data uploading and interface systems were a major focus for SBA and the Participating Agencies. SBA addressed reporting delays with funding support from the Administrative Funding Pilot Program, which continues to be important to maintain reporting efficiencies. SBA

acknowledges that the consolidated FY14 Annual Report to Congress is late, and SBA is now working toward more timely submissions of these annual reports in the future.

- *Company Registry:* Company-specific and proprietary information collected from all SBIR/STTR small business applicants and awardees;
- *Commercialization:* Company-specific and proprietary information collected from all SBIR/STTR small business awardees and awarding agencies on all SBIR/STTR award commercialization efforts and results;
- *Other:* Information required by statute to be submitted but does not fit into any of the other databases.

Although certain database elements containing proprietary information are unavailable to the public, the www.SBIR.gov portal allows visitors the flexibility to self-identify into roles based on individual interests and needs. Users may search award topics, solicitations, and award activity by agency or small business. Small businesses may connect with outside resource partners for SBIR/STTR-related support or services and utilize outreach tools and informational links to Particpating Agency offices, conference listings, registrations, webinars, tutorials, and blogs. Throughout FY14, the SBA and the Particpating Agencies continued to work together to improve the government databases' data and reporting mechanisms while providing transparency to mitigate fraud, waste, and abuse:

- Upgraded SBIR.gov design and function to import Particpating Agency SBIR/STTR Program data;
- Improved site content as a one-stop-shop for small businesses interested in participating;
- Unified solicitations across the Particpating Agencies to provide a searchable site for use by both agencies and small business concerns;
- Reconciled differences in award data collected across Particpating Agencies and across years from legacy systems;
- Developed detailed data-structure framework for reporting new data requirements under the Reauthorization Act; and,
- Collected Particpating Agencies' Annual Reports electronically to the SBA through SBIR.gov to prevent duplicative submissions.

SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM OVERVIEW

The Small Business Innovation Research (SBIR) Program is a highly competitive program that encourages U.S. small businesses to engage in Federal research/research and development (R/R&D) that has the potential for commercialization. Through a competitive awards-based program, SBIR enables small businesses to explore their technological potential and encourages commercialization. By including qualified small businesses in the nation's R/R&D arena, high-tech innovation is stimulated and the U.S. gains entrepreneurial spirit as it meets its specific R/R&D needs. This Fiscal Year 2014 (FY14) Annual Report provides comprehensive summary data and performance results for the SBIR/STTR Programs, aggregating information as reported to the SBA from the 11 SBIR/STTR Participating Agencies.

SBIR MISSION AND PROGRAM GOALS

The mission of the SBIR Program is to support scientific excellence and technological innovation through the investment of Federal research and development funds in critical American priorities to build a strong national economy. The goals of the SBIR Program are to:

- Stimulate technological innovation.
- Meet Federal R/R&D needs.
- Foster and encourage participation in innovation and entrepreneurship by socially and economically disadvantaged persons.
- Increase private-sector commercialization of innovations derived from Federal R/R&D funding.

PARTICIPATING AGENCIES

The Small Business Act (the Act), as amended by the SBIR/STTR Reauthorization Act of 2011 (the Reauthorization Act) requires the SBIR/STTR Particpating Agencies to set aside certain percentages of their extramural R/R&D budgets to fund small business R/R&D activities through the SBIR/STTR Programs. 15 USC §638 (e)(1) defines extramural budget as “the sum of the total obligations minus amounts obligated for such activities by employees of the agency in or through Government-owned, Government-operated facilities, except that for the Department of Energy it shall not include amounts obligated for atomic energy defense programs solely for weapons activities or for naval reactor programs, and except that for the Agency for International Development it shall not include amounts obligated solely for general institutional support of international research centers or for grants to foreign countries.” For FY14, the Particpating Agencies with extramural R/R&D budgets that exceed $100 million were required to set aside 2.8% of their FY14 extramural R/R&D budgets for SBIR awards to small businesses. Each Particpating Agency administers its own individual program within guidelines established by Congress and the Policy Directives established by SBA. These Agencies designate R/R&D topics in their solicitations and accept proposals from eligible small businesses. Awards are made on a competitive basis after proposal evaluation.

The following 11 Federal Agencies participate in the SBIR Program:

- Department of Defense (DOD)
- Department of Health & Human Services (HHS)
- Department of Energy (DOE)
- National Aeronautics & Space Administration (NASA)
- National Science Foundation (NSF)
- Department of Agriculture (USDA)
- Department of Homeland Security (DHS)
- Department of Education (ED)
- Department of Commerce (DOC)
- Environmental Protection Agency (EPA)
- Department of Transportation (DOT)

SMALL BUSINESS TECHNOLOGY TRANSFER (STTR) PROGRAM OVERVIEW

The Small Business Technology Transfer (STTR) Program expands funding opportunities in the federal innovation R/R&D arena. Central to the program is expansion of public-private sector partnerships to include teaming opportunities for small businesses and nonprofit research institutions. The unique feature of the STTR Program is the requirement for a small business to formally collaborate with a research institution in Phase I and Phase II. STTR's most important role is to bridge the gap between performance of basic science and commercialization of the resulting innovations.

STTR MISSION AND PROGRAM GOALS

The mission of the STTR Program is to support scientific excellence and technological innovation through the investment of Federal research funds in critical American priorities to build a strong national economy. The goals of the STTR Program are to:

- Stimulate technological innovation.
- Foster technology transfer through cooperative R/R&D between small businesses and research institutions.
- Increase private sector commercialization of innovations derived from federal R/R&D.

PARTICIPATING AGENCIES

The Act, as amended by the Reauthorization Act, requires SBIR/STTR Particpating Agencies to set aside a certain percentage of their extramural R/R&D budgets to fund small business R/R&D activities through the SBIR/STTR Programs. For FY14, Federal Agencies with extramural R/R&D budgets that exceed $1 billion are required to set aside a minimum of 0.40% of their FY14 extramural R/R&D budgets for the STTR Program. Each agency administers its own individual program within guidelines established by Congress and the Policy Directive established by SBA. These agencies designate R/R&D topics in their solicitations and accept proposals from small businesses working in cooperation with federal laboratories and non-profit research institutions. Awards are made on a competitive basis after proposal evaluation. The following five agencies participate in the STTR Program:

- Department of Defense (DOD)
- Department of Health & Human Services (HHS)
- Department of Energy (DOE)
- National Aeronautics & Space Administration (NASA)
- National Science Foundation (NSF)

THREE-PHASE PROGRAMS AND COMPETITION

The SBIR/STTR Programs are structured in three phases and typically follow the award process in Figure 1:

Phase I | Feasibility-Related Experimental Study or Theoretical R/R&D
The objective of Phase I is to establish the technical merit, feasibility, and commercial potential of the proposed R/R&D efforts and to determine the quality of performance of the small business awardee prior to providing further Federal support in Phase II. SBIR Phase I awards generally do not exceed $150,000 in total costs for a 6-month period of performance. STTR has the same general total costs however the Phase I period of performance is generally one year.

Phase II | Full R&D Effort
The objective of Phase II is to continue the R&D efforts initiated in Phase I. Funding is based on the results achieved in Phase I and the scientific and technical merit and commercial potential of the project proposed in Phase II. SBIR/STTR Phase II awards do not generally exceed a total cost of $1,000,000 and generally have a period of performance that does not exceed two years.

Phase III | Commercialization Effort
The objective of Phase III is for the small business to pursue commercialization objectives resulting from the Phases I & II R/R&D activities. The Particpating Agencies do not use SBIR/STTR funding for Phase III awards. In some agencies, Phase III may involve follow-on, non-SBIR/STTR funded R&D or production contracts for products, processes, or services intended for use by the U.S. Government.

Figure 1: Typical Award Process

COMPETITIVE OPPORTUNITY FOR SMALL BUSINESS

The SBIR/STTR Programs target the entrepreneurial sector where most innovation and innovators thrive. However, the risk and expense of conducting serious R&D efforts are often beyond the means of many small businesses. By reserving a specific percentage of federal extramural R/R&D funds for small businesses, the SBIR/STTR Programs covers the risk and expense of the initial investment and full R&D effort. The SBIR/STTR Programs fund the critical startup and development stages of a small business and encourage the commercialization of the technology, product, or service, which, in turn, stimulates the U.S. economy. Since their enactment, the SBIR/STTR Programs have helped tens of thousands of small businesses compete for federal R&D awards. Their contributions have enhanced the nation's defense, protected our environment, advanced health care, and improved our ability to manage information and manipulate data.

AGENCY COMPLIANCE WITH THE MINIMUM SPENDING REQUIREMENTS

As required by the Act, SBIR/STTR funding agencies report to SBA the methodology used to determine its total extramural budget and the amount obligated for SBIR/STTR for that fiscal year.

Challenges exist when trying to determine agency SBIR/STTR Program funding compliance:

1. The first challenge is identifying a common and transparent accounting of agency extramural R/R&D obligations for the year. The original Congressional intent in using extramural R/R&D as the basis for the SBIR/STTR funding requirement is clear: this is the portion of an agency's total R/R&D budget that is performed by non-federal employees and may therefore be performed through grants and contracts. Section 9(e)(1) of the Small Business Act defines the term "extramural budget" as "the sum of the total obligations [for R/R&D] minus amounts obligated for such activities by employees of the agency in or through Government-owned, Government-operated facilities, except that for the Department of Energy it shall not include amounts obligated for atomic energy defense programs solely for weapons activities or for naval reactor programs, and except that for the Agency for International Development it shall not include amounts obligated solely for general institutional support of international research centers or for grants to foreign countries." As prescribed in Section 10(h)(4)(i) of the February 2014 SBIR/STTR Policy Directives, the Particpating Agencies must report the total fiscal year appropriations and extramural R/R&D total obligations as reported to the National Science Foundation[1] pursuant to the Budget of the United States Government, commonly known as the NSF National Center for Science and Engineering Statistics (NCSES) Survey of Federal Funds for Research and Development (NSF Survey). Currently the extramural R&D reported by Particpating Agencies to the NSF Survey may differ from the amounts reported to the SBA for several reasons. SBA requests that agencies provide a rationale for any variance that exists between the amounts reported to SBA for the annual report and amounts reported to NSF for the NSF Survey.
2. The second challenge stems from the statutory definition of extramural budget, which looks to the amount that it "obligated." While most agencies report extramural R/R&D obligations, several agencies, like DOD and EPA, use budget appropriations, rather than the actual amount obligated during the fiscal year, to determine their extramural R/R&D and SBIR/STTR set-aside amounts. In the latter case, SBA cannot validate whether these Particpating Agencies met their SBIR/STTR set-aside requirements.
3. The third challenge is that when a Participating Agency tracks whether it has met the minimum spending requirement by analyzing the amount of funds obligated for SBIR/STTR awards during a particular fiscal year, it is not possible to know whether the minimum was met until the fiscal year has ended.,
4. Delays in contracting processes pose another challenge, especially for Particpating Agencies with multi-year budget authority. Even if a Participating Agency plans to obligate funds during the fiscal year to meet the minimum spending requirement, delays in the contracting process may prevent those awards and cause the agency to miss the minimum spending requirement.
5. Lastly, agencies that receive appropriations later in the fiscal year (DOD does not release its SBIR allocation under a Continuing Resolution) may encounter challenges in obligating the minimum spending requirement in the remainder of that particular fiscal year.

MEETING THE MINIMUM SPENDING REQUIREMENTS AND UNDERSTANDING THE VARIANCE BETWEEN EXTRAMURAL R/R&D REPORTED TO SBA AND NSF

The table below shows the total extramural R/R&D amounts each Particpating Agency reported to SBA and used to determine the SBIR/STTR minimum spending requirement, the amount of exemptions if any, the extramural R/R&D amount reported to SBA plus exemptions (the NSF

[1] NSF's National Center for Science and Engineering Statistics (NCSES) at https://www.nsf.gov/statistics/srvyfedfunds/#sd indicates that there are some measurement problems known to exist in the data that is collected by the Survey of Federal Funds for Research and Development.

survey numbers include exempted programs), extramural R/R&D reported to the NSF Federal Funds survey, whether extramural R/R&D was reported to SBA in terms of total obligations or budget appropriations, the timeframe Agencies have to obligate allocated funding, SBIR/STTR obligations, and the percentage of extramural R/R&D that was obligated for SBIR/STTR awards, as reported to the SBA. Extramural R/R&D amounts will differ by the value of exempted programs and/or if a different definition of "extramural R/R&D" was used.

FY14 SBIR/STTR Program Funding as Share of Agency Reported Extramural R/R&D

Agency	Extramural R/R&D Amount Reported to SBA to Determine the Minimum Spending Requirement ($)		Amount of Exemptions ($) *	Total Extramural R/R&D Amount Including Exemptions as Reported to SBA	Extramural R/R&D Obligations Reported to NSF ($)[2]	Whether Extramural R/R&D is Reported to SBA as Obligations (O) or Appropriations (A)	Timeframe to Obligate Allocated Funding	Amount Obligated for SBIR Awards as Reported to SBA ($)	% of Extramural R/R&D as Reported to SBA and Used to Fund SBIR Awards (2.8% min)	Amount Obligated for STTR Awards as Reported to SBA ($)	% of Extramural R/R&D as Reported to SBA and Used to Fund STTR Awards (0.40% min)
DOD[3]	**$31,556,545,718**	**Y**	$17,447,936,900	$49,004,482,618	$43,865,600,000	**A**	2-year	$1,056,795,663	**3.35%**	$66,953,279	**0.21%**
HHS	**$24,096,641,379**	N	$0	$24,096,641,379	$24,100,600,000	**O**	Same-year	$680,729,893	**2.82%**	$96,583,563	**0.40%**
DOE[4]	**$6,055,252,234**	**Y**	$3,921,500,000	$9,976,752,234	$10,021,100,000	**O**	No-year	$182,758,991	**3.02%**	$24,094,800	**0.40%**
NASA	**$4,742,000,000**	N	$0	$4,742,000,000	$9,214,900,000	**O**	2-year	$144,553,504	**3.05%**	$21,246,706	**0.45%**
NSF	**$4,688,000,000**	N	$0	$4,688,000,000	$5,316,800,000	**A**	2-year	$140,066,833	**2.99%**	$22,163,327	**0.47%**
USDA	**$1,096,734,636**	N	$0	$816,000,000	$771,000,000	**O**	1-year + No-year	$19,513,388	**1.78%**		
DHS	**$364,006,984**	N	$0	$364,006,984	$342,300,000	**O**	3-year	$18,575,115	**5.10%**		
ED	**$310,118,376**	N	$0	$310,118,376	$309,500,000	**O**	1-year	$12,921,447	**4.17%**		
DOC	**$298,039,863**	N	$0	$298,039,863	$313,500,000	**O**	2-year	$6,920,475	**2.32%**		
DOT[5]	**$259,400,000**	**Y**	$316,849,000	$576,249,000	$574,200,000	**O**	No-year	$11,808,777	**4.55%**		
EPA	**$148,525,800**	N	$0	$148,525,800	$277,000,000	**A**	2-year	$4,987,637	**3.36%**		
Total	***$73,615,264,990***		***$21,686,285,900***	***$95,020,817,254***	***$95,542,600,000***			***$2,279,631,722***	**3.10%**	***$231,041,675***	**0.32%**

*DOD, DOE, and DOT exempted program dollars are based on calculations performed by SBA from budget amounts provided by the Agency after the FY14 Annual Report was submitted to the SBA.
*Percentages in red indicate the Agency did not meet the minimum spending requirement for FY14.

The following subsections summarize whether each Agency met the minimum spending requirement, any variance between extramural R/R&D amounts reported to SBA and NSF, and the Agency response to SBA.

DOD. While SBA does not consider DOD's current practice of reporting extramural R/R&D appropriations useful in verifying whether the minimum spending requirement was met, SBA had to use its reported figures along with reported SBIR/STTR obligations to determine that DOD exceeded the minimum SBIR spending requirement and did not meet the minimum STTR spending requirement for FY14. DOD

[2] NSF's National Center for Science and Engineering Statistics (NCSES) at https://www.nsf.gov/statistics/srvyfedfunds/#sd indicates that there are some measurement problems known to exist in the data that is collected by the Survey of Federal Funds for Research and Development.
[3] DOD exemptions include G-2, ONI, AFISRA, and Advanced Sensors Application Program.
[4] DOE exemptions include Weapons Activities and Naval Reactors.
[5] DOT exemptions include FAA and FHWA's State Planning and Research Program.

reported to SBA that they calculate their extramural R/R&D budget by "collecting each Component's total RDT&E budget appropriation and reducing this amount by any applicable congressional reductions, OSD reductions, program dollars exempted by statute, and intramural R/R&D amounts. After these reductions are taken, the remaining amount is the total Extramural R/R&D base for calculating the SBIR set-aside budgets based on the current year's required percentages. This calculation is performed for each Component within the Department of Defense that executes an R/R&D budget and is subsequently aggregated by DOD for reporting to SBA. DOD has discussed with the Office of Management and Budget (OMB) that all budgetary calculations are done at the Service/Component Comptroller level and annually reports any updated SBIR/STTR budget related numbers." DOD further explains that "the SBIR/STTR budget numbers reported are but a snapshot at one specific point in time (whenever data for the report is queried). This means there may be discrepancies with other reported budget numbers due to the constant shifting between intramural and extramural accounts. Only after the close of a FY obligation authority period will the DOD numbers be final." DOD's rationale supports the recommendation that obtaining total extramural R/R&D obligations after the year has completed is critical to determining if the Agency met the minimum spending requirement.

In terms of the difference in the extramural R/R&D amount reported to the NSF Survey and the amount reported to the SBA, DOD explains that the DOD SBIR/STTR Programs do not have any input to or awareness of the NSF Survey and its calculation methodology and they are unable to provide comment on any discrepancies. Based on review of the individual DOD Component budget calculation worksheets and exemptions (that use extramural R/R&D appropriations as their base) provided by DOD to SBA, it appears that the DOD set-aside exceeds the number DOD reported to NSF and may explain that the variance can be attributed to the Programs exempted from the SBIR set-aside calculation. However, since the NSF figures are based on total extramural R/R&D obligations and the SBIR/STTR numbers on extramural R/R&D appropriations, SBA cannot verify the accuracy of either number.

HHS. HHS met both the minimum spending requirements for SBIR and STTR. HHS reported a very small variance between the extramural R/R&D amounts reported to SBA for the Annual Report and NSF.

DOE. Per DOE, the primary difference between extramural R/R&D obligations reported to SBA and the NSF Federal Funds Survey is their exempted programs. However, SBA was not able to validate the amount of DOE's statutory exemptions based on how the figures were reported to SBA and thus cannot determine whether DOE actually exceeded the minimum spending requirement. DOE also reported that there are other differences between the SBA and NSF numbers to include DOE's treatment of intramural R&D.

NASA. SBA cannot validate that the minimum spending requirements for NASA are accurate as the difference between the extramural R/R&D obligations reported to SBA and the NSF Survey is almost $4.5 billion, which is approximately $125 million of SBIR funding. NASA's explanation for the large variance between the extramural R/R&D obligations reported to SBA and the NSF Survey is "the data reported to NSF for R/R&D obligations includes all NASA R&D. The only exclusions included in the data set for intramural R/R&D are administrative costs for R/R&D performance such as personnel and travel. For the SBIR/STTR calculations, NASA follows the definition of extramural budget as defined in the statute and in the Small Business Administration Policy Directive. The definition states that "extramural budget" is: 'The sum of the total obligations for R/R&D minus amounts obligated for R/R&D activities by employees of a Federal agency in or through Government-owned, Government operated facilities.' Based on this definition, NASA identifies the exclusions that are considered intramural R/R&D. In addition to the exclusions in the NSF survey for FY14, NASA also excluded the following categories from total R/R&D obligations reported to SBA:

1. Support contractors performing NASA Center on- or near-site science, engineering, technical or management services; (~$1.4B)
2. Launch vehicle procurements (as these are transportation costs); (~$.25B)
3. Procurements and administrative expenses associated with NASA "in-house" performed R/R&D projects and activities (~$2.9B)"

SBA cannot validate that NASA is meeting the minimum spending requirements for SBIR. It is not clear to SBA why the figures NASA reports to NSF as extramural R/R&D would be different from the figures that NASA reports to SBA to determine the SBIR minimum spending requirement.

NSF. NSF exceeded the minimum spending requirements for both SBIR and STTR. The variance between the extramural R/R&D obligations reported to SBA and the NSF Survey is attributed to NSF reporting "actual obligations of $5,316,800,000 (which included carryover from FY13) to the survey and the FY14 Current Plan of $4,688,000,000 to SBA" for the annual report.

USDA. USDA did not meet the minimum spending requirement for SBIR. In response to its shortfall in meeting the minimum spending requirement for FY14, USDA explained that "the current SBIR expenditure calculation methodology uses the total FY14 extramural R/R&D obligations for an Agency and compares the total Agency obligations to the required appropriated set-aside percentage of 2.8% to be obligated on SBIR projects. In order to fund a SBIR Program, each agency must set up its SBIR budget by setting aside 2.8% of its extramural R/R&D budget authority appropriated funds for the same year. This is typically done at the beginning of the fiscal year. It is impossible to set up the budget for a SBIR Program using end of year obligations as this data is not available after the fiscal year is completed. The USDA met the requirement of setting up its SBIR budget at the beginning of FY14 by taxing the FY14 extramural R/R&D appropriations at 2.8% and obligated these taxed set-aside funds over the fiscal year on USDA SBIR projects. At the end of FY14, the USDA reported total extramural obligations at the Department and total obligations for the USDA SBIR Program as required by statute. The USDA SBIR Program is automatically out of compliance based on the Department total extramural R/R&D obligations due to non-SBIR Programs at USDA obligating no-year funds from prior years as this additional funding artificially overinflates the expenditure compliance calculation. These non-SBIR Programs have the legal authority by statute to reserve and obligate appropriated funds in future years. Under the budget authority appropriations process, the USDA SBIR Program already received the taxed set-aside no-year funds in the same year as the appropriations and obligated those funds the same fiscal year.

For example, USDA indicated that their Agency, which did not meet the SBIR spending requirement, carried over ~$250 million in extramural R/R&D funding for non-SBIR Programs from fiscal years 2011, 2012, and 2013. The carryover of funds obligated by non-SBIR Programs required an additional $7.2 million to be provided to the USDA SBIR Program in 2014 based on the end of year expenditure calculation using total agency obligations for fiscal year 2014. This increased the SBIR spending requirement beyond what USDA had estimated at the beginning of the year based on the 2014 budget authority which used USDA's extramural R/R&D appropriations to set-aside the required SBIR funding in 2014. Further, USDA indicated that the $250 million carried over from prior years by non-SBIR Programs already contributed to the USDA SBIR set-aside under the budget authority appropriations for those years, i.e., 2.5% for 2011, 2.6% for 2012 and 2.7% for 2013. Therefore, USDA stated that it is impossible to re-tax the $250 million of obligated carry-over funds in 2014 at the required 2.8% to meet the increased SBIR spending requirement because these non-SBIR Programs already contributed to the SBIR Program. USDA indicated that its SBIR Program could obligate 100% of its SBIR set-aside for FY14, but when earlier no-year

funds are obligated on non-SBIR USDA Programs and are added into the total obligation calculation at the end of the year, USDA automatically falls below the required percentage for expenditure compliance. USDA also indicated that if USDA obligated the additional $7.2M as the end of year obligation calculation required, and obligated the additional $7.2M which was not part of the budget authority appropriations in FY14, the USDA would be in violation of the Antideficiency Act (ADA). The ADA, Pub.L. 97–258, 96 Stat. 923, is legislation enacted by the United States Congress to prevent a Federal Agency from incurring obligations or the making expenditures (outlays) in excess of amounts available under its fiscal year budget authority appropriations."

In terms of what is being done to address this issue, USDA responded that "at this time the USDA has no ability to determine what the end of year extramural R/R&D obligations will be at the beginning of the fiscal year when setting up the SBIR budget for the fiscal year. The only way USDA can determine an early year budget for the SBIR Program is take the SBIR set-aside from the USDA extramural R/R&D budget authority appropriations. At this time, USDA has no legal authority to apply a secondary SBIR tax on multi-year funds and at this time the USDA has no ability to legally meet the expenditure compliance methodology using only end of year obligations as the final metric."

DHS. DHS's Domestic Nuclear Detection Office (DNDO) provided additional funding for the DNDO SBIR Program within its FY14 Spend Plan causing DHS to exceed the minimum spending requirement for SBIR. DHS's SBIR extramural number reported to SBA matches the number reported to NSF.

ED. ED sets aside a certain amount of funding each year for SBIR and that amount typically exceeds the minimum SBIR spending requirement. The variance between the extramural R/R&D obligations reported to SBA and the NSF Survey is $618,376.

DOC. DOC did not meet the minimum set-aside requirement for SBIR and reports that in "FY14 NOAA used the current year's R/R&D Spend Plan estimates for its calculation. It is necessary to do so to award contracts in a timely manner through NOAA's acquisition office. Actual obligations and Spend Plan numbers are never the same so this has reduced NOAA's SBIR expenditures compliance. Additionally, in FY14 there were still remnants of the R/R&D Sandy Supplemental funds carryover from the previous year." To meet the mandatory minimum for SBIR expenditures, DOC's mitigation plan moving forward is that "NOAA will implement a new calculation method in FY16. NOAA will no longer use the Spend Plan but instead use the previous year's actual obligation, and collect using a slightly higher SBIR percentage. That means for FY16, NOAA will use the FY15 Actual Extramural R/R&D, and use 3.4% percent for collection (as opposed to 3.0%). The slight 0.4% increase in percentage will be revisited each year, through the agency's budget and finance community, to ensure compliance, validity, and accuracy." According to DOC, timing can explain why there is a difference between the extramural R/R&D reported to NSF and SBA in FY14. NOAA provided enacted data to NSF in April 2014. The SBIR set-aside, based on the spend plan, was determined in July/August 2014.

DOT. SBA cannot validate that the minimum spending requirements for DOT are accurate as there is a difference between the extramural R/R&D obligations reported to SBA and the NSF Survey. The extramural R/R&D amount reported to NSF includes DOT programs exempted from the extramural R/R&D SBIR calculation that are not mentioned in the Act. SBA calculated DOT's exempted program dollars using the budget amounts provided by the Agency after the FY14 Annual Report was submitted to the SBA. DOT exceeded the minimum set-aside requirement for SBIR "due to some of the modal administrations having a surplus of funding available that allowed them to participate beyond their normal levels." DOT reports the following: "FAA [Federal Aviation Administration] is

exempt from the Competition in Contracting Act (CICA) and is excluded from the SBIR assessment per the DOT and Related Agencies Appropriation Act of 1996, PL 104-50 (approved 15 Nov 1995). This 1996 DOT Appropriations Act includes exemptions for FAA from many Federal procurement laws, including SBIR, Competition in Contracting Act (CICA), and the Federal Acquisition Regulation (FAR). In addition, FHWA's [Federal Highway Administration] State Planning and Research Program is excluded per 23 USC 505(b)(3)."

EPA. EPA exceeded the minimum set-aside requirement for SBIR. Based on the SBA definitions and a lower level of complexity of the data, EPA classifies in-house research as intramural for reporting purposes. For the FY14 annual report, EPA reported total extramural R/R&D as appropriations. EPA used a simplified approach to calculating intramural versus extramural because of the complexity of the data reported in the NSF survey. Regarding the variance between the extramural R/R&D budgets reported to SBA and the NSF survey, EPA responded that as the NSF and the SBA reports are at the request of two different entities, the reports address separate issues and therefore use different methodologies. The NSF Funds Survey data reflects EPA's FY15 enacted budget levels, not obligations, which is consistent with their reporting to the SBA.

FY14 Program Performance Snapshots

FY14 SBIR Performance

- $1.6 billion in 4,675 new awards
  - $488 million in 3,162 new Phase I awards
  - $1.1 billion in 1,513 new Phase II awards
- $41.2 million in prior-year Phase I awards
- $596.7 million in prior-year Phase II awards
- 18% of proposals received Phase I awards
- 51% of proposals received Phase II awards
- 13% of total award dollars went to Women-Owned Small Business Concerns, as defined in the Policy Directive (WOSBs)
- 3% of total award dollars went to Socially or Economically Disadvantaged-owned Small Business Concerns (SDBs)
- 2% of total award dollars went to HUBZone-certified Small Business Concerns (HUBZone SBCs)
- 67% of total award dollars went to 10 states: CA, MA, MD, VA, CO, PA, NY, TX, OH, and NJ

FY14 STTR Performance

- $183 million in 705 new awards
  - $82.7 million in 492 new Phase I awards
  - $100 million in 213 new Phase II awards
- $6.3 million in prior-year Phase I awards
- $38.8 million in prior-year Phase II awards
- 23% of proposals received Phase I awards
- 58% of proposals received Phase II awards
- 12% of total award dollars went to Women-Owned Small Business Concerns, as defined in the Policy Directive (WOSBs)
- 5% of total award dollars went to Socially or Economically Disadvantaged-owned Small Business Concerns (SDBs)
- 2% of total award dollars went to HUBZone-certified Small Business Concerns (HUBZone SBCs)
- 61% of total award dollars went to 10 states: CA, MA, VA, NY, OH, AL, NC, PA, NJ, and TX

FY14 SBIR Program Summary Data

	REPORT FIELD	DOD	HHS	DOE	NASA	NSF
PHASE I	Solicitations Released (#)	3	3	2	2	2
	Proposals Received (#)	6,426	4,560	1,551	1,290	1,683
	Phase I Awards (#)	1,359	822	214	346	224
	Obligations for New Phase I Awards ($)	$169,199,523	$187,651,926	$33,971,468	$42,846,286	$33,479,317
	Obligations on Prior-Year Phase I Awards ($)	$13,450,846	$24,756,717	$0	$0	$2,962,033
	Total Obligations for Phase I Awards (New + Prior) ($)	$182,650,369	$212,408,643	$33,971,468	$42,846,286	$36,441,350
	WOSB Proposals Received (#) / Percent of Total (%)	1,159 / 18%	553 / 12%	184 / 12%	178 / 14%	301 / 18%
	WOSB Awards (#) / Percent of Total (%)	241 / 18%	100 / 12%	16 / 7%	31 / 9%	33 / 15%
	WOSB Obligations ($) / Percent of Total (%)	$30,631,197 / 17%	$24,870,070 / 12%	$2,649,411 / 8%	$3,837,790 / 9%	$4,947,407 / 14%
	SDB Proposals Received (#) / Percent of Total (%)	629 / 10%	189 / 4%	93 / 6%	140 / 11%	276 / 16%
	SDB Awards (#) / Percent of Total (%)	7 / 1%	32 / 4%	11 / 5%	27 / 8%	24 / 11%
	SDB Obligations ($) / Percent of Total (%)	$1,017,038 / 1%	$8,204,751 / 4%	$1,823,660 / 5%	$3,311,114 / 8%	$3,586,602 / 10%
	HUBZone SBC Proposals Received (#) / Percent of Total (%)	94 / 1%	-	128 / 8%	19 / 1%	102 / 6%
	HUBZone SBC Awards (#) / Percent of Total (%)	22 / 2%	-	16 / 7%	3 / 1%	19 / 8%
	HUBZone SBC Obligations ($) / Percent of Total (%)	$3,088,543 / 2%	-	$2,605,867 / 8%	$371,542 / 1%	$2,812,820 / 8%
PHASE II	Proposals Received (#)	1,309	693	320	253	264
	Total Phase II Awards (Initial+Second) (#)	752	316	142	119	104
	"Second Phase II" Awards (subset) (#)	76	24	22	0	0
	Obligations for New Phase II Awards ($)	$496,954,894	$252,493,169	$145,713,022	$94,834,858	$75,908,287
	Obligations for "Second Phase II" Awards (subset) ($)	$65,359,165	$22,123,741	$21,317,261	$0	$0
	Obligations on Prior-Year Phase II Awards ($)	$358,743,286	$208,084,537	-	$3,445,351	$20,983,306
	Total Obligations for Phase II Awards (New + Prior) ($)	$855,698,180	$460,577,706	$145,713,022	$98,280,209	$96,891,593
	WOSB Proposals Received (#) / Percent of Total (%)	204 / 16%	78 / 11%	18 / 6%	31 / 12%	44 / 17%
	WOSB Awards (#) / Percent of Total (%)	106 / 14%	40 / 13%	12 / 8%	10 / 8%	15 / 14%
	WOSB Obligations ($) / Percent of Total (%)	$130,378,551 / 26%	$58,261,400 / 23%	$11,933,076 / 8%	$8,207,826 / 9%	$11,133,902 / 15%
	SDB Proposals Received (#) / Percent of Total (%)	77 / 6%	22 / 3%	13 / 4%	19 / 8%	18 / 7%
	SDB Awards (#)/ Percent of Total (%)	13 / 2%	10 / 3%	6 / 4%	5 / 4%	9 / 9%
	SDB Obligations ($) / Percent of Total (%)	$14,397,919 / 3%	$12,219,384 / 5%	$5,999,825 / 4%	$4,478,661 / 5%	$6,554,812 / 9%
	HUBZone SBC Proposals Received (#) / Percent of Total (%)	17 / 1%	-	17 / 5%	4 / 2%	17 / 6%
	HUBZone SBC Awards (#) / Percent of Total (%)	10 / 1%	-	13 / 9%	4 / 3%	6 / 6%
	HUBZone SBC Obligations ($) / Percent of Total (%)	$17,009,149 / 3%	-	$14,029,930 / 10%	$2,949,273 / 3%	$4,482,958 / 6%
P3	Total Phase III Awards ($)	$610,888,807	$0	$299,016	$14,930,365	$0
ADMIN	Technical Assistance ($)	$1,720,000	$1,773,000	$1,509,822	$54,500	$5,985,244
	Administrative Funding Pilot (3%) ($)	$10,653,722	$5,970,544	$1,564,679	$497,800**	$748,646
	Commercialization Readiness Program (CRP - DOD only) ($)	$6,073,392	N/A	N/A	N/A	N/A
	Civilian CRP Pilot ($)	N/A	Not established	Not established	$2,874,709	Not established
TOTALS	Total SBIR Obligations ($)	$1,056,795,663	$680,729,893	$182,758,991	$144,553,504	$140,066,833
	Extramural R/R&D* ($)	$31,556,545,718	$24,096,641,379	$6,055,252,234	$4,742,000,000	$4,688,000,000
	SBIR Obligations as Share of Extramural R/R&D (%)	3.35%	2.82%	3.02%	3.05%	2.99%

* Some agencies reported this figure in terms of dollars obligated, while other agencies reported this figure in terms of amounts budgeted for the programs. See discussion on page 11.

- Indicates that the agency did not collect this data for FY14.

** For the FY13 Annual Report submission NASA had reported to SBA that no Administrative Funding had been obligated. NASA recently determined that $3,070,000 was obligated in FY13.

FY14 SBIR Program Summary Data *(continued from previous page)*

	REPORT FIELD	USDA	DHS	ED	DOC	DOT	EPA	SBIR TOTAL All Agencies
PHASE I	Solicitations Released (#)	1	2	3	2	2	1	23
	Proposals Received (#)	479	142	310	122	321	257	17,141
	Phase I Awards (#)	76	34	24	23	19	21	3,162
	Obligations for New Phase Awards ($)	7,521,601	3,604,230	2,831,838	2,120,720	2,718,751	2,096,873	$488,042,533
	Obligations on Prior-Year Phase I Awards ($)	$0	$0	$0	$0	$0	$0	$41,169,596
	Total Obligations for Phase I Awards (New + Prior) ($)	$7,521,601	$3,604,230	$2,831,838	$2,120,720	$2,718,751	$2,096,873	$529,212,129
	WOSB Proposals Received (#) / Percent of Total (%)	73 / 15%	22 / 15%	75 / 24%	23 / 19%	76 / 24%	27 / 11%	2,671 / 16%
	WOSB Awards (#) / Percent of Total (%)	9 / 12%	5 /15%	3 / 13%	4 / 17%	7 / 37%	1 /5%	450 / 14%
	WOSB Obligations ($) / Percent of Total (%)	$896,169 / 12%	$504,846 / 14%	$374,993 / 13%	$364,585 / 17%	$1,019,807 / 38%	$100,000 /5%	$70,196,275 / 13%
	SDB Proposals Received (#) / Percent of Total (%)	29 / 6%	5 / 4%	32 / 10%	18 / 15%	58 / 18%	6 / 2%	1,475 / 9%
	SDB Awards (#) / Percent of Total (%)	4 / 5%	0	0	2 / 9%	4 / 21%	2 / 10%	113 / 4%
	SDB Obligations ($) / Percent of Total (%)	$399,633 / 5%	$0	$0	$179,988 / 8%	$572,496 / 21%	$200,000 / 10%	$19,295,282 / 4%
	HUBZone SBC Proposals Received (#) / Percent of Total (%)	59 / 12%	2 / 1%	30 / 10%	2 / 2%	16 / 5%	42 / 16%	494 / 3%
	HUBZone SBC Awards (#) / Percent of Total (%)	11 / 14%	0	2 / 8%	1 / 4%	1 / 5%	1 / 5%	76 / 2%
	HUBZone SBC Obligations ($) / Percent of Total (%)	$1,099,942 / 15%	$0	$150,000 / 5%	$90,000 / 4%	$149,995 / 6%	$100,000 / 5%	$10,468,709 / 2%
PHASE II	Proposals Received (#)	47	26	27	19	15	23	2,996
	Total Phase II Awards (Initial+Second) (#)	26	13	8	13	11	9	1,513
	"Second Phase II" Awards (subset) (#)	0	0	0	0	2	0	124
	Obligations for New Phase II Awards ($)	$11,498,355	$9,382,860	$9,553,031	$4,799,072	$8,505,172	$2,690,332	$1,112,333,052
	Obligations for "Second Phase II" Awards (subset) ($)	$0	$0	$0	$0	$1,556,447	$0	$110,356,614
	Obligations on Prior-Year Phase II Awards ($)	$0	$4,320,230	$536,578	$0	$559,976	$69,932	$596,743,195
	Total Obligations for Phase II Awards (New + Prior) ($)	$11,498,355	$13,703,090	$10,089,609	$4,799,072	$9,065,149	$2,760,264	$1,709,076,249
	WOSB Proposals Received (#) / Percent of Total (%)	8 / 17%	3 / 12%	6 / 22%	3 / 16%	4 / 27%	1 / 4%	400 / 13%
	WOSB Awards (#) / Percent of Total (%)	3 / 12%	2 / 15%	3 / 38%	2 / 15%	4 / 36%	1 / 11%	198 / 13%
	WOSB Obligations ($) / Percent of Total (%)	$1,304,095 / 11%	$1,760,000 / 19%	$2,119,215 / 22%	$800,000 / 17%	$3,306,387 / 39%	$297,422 / 11%	$229,501,874 / 21%
	SDB Proposals Received (#) / Percent of Total (%)	3 / 6%	4 / 15%	0	1 / 5%	2 / 13%	1 / 4%	160 / 5%
	SDB Awards (#)/ Percent of Total (%)	2 / 8%	1 / 8%	0	0	3 / 27%	1 / 11%	50 / 3%
	SDB Obligations ($) / Percent of Total (%)	$900,000 / 8%	$489,713 / 5%	$0	$0	$2,106,133 / 25%	$299,954 / 11%	$47,446,401 / 4%
	HUBZone SBC Proposals Received (#) / Percent of Total (%)	4 / 9%	2 / 8%	5 / 19%	2 / 11%	1 / 7%	1 / 4%	70 / 2%
	HUBZone SBC Awards (#) / Percent of Total (%)	2 / 8%	1 / 8%	2 / 25%	2 / 15%	1 / 9%	1 / 11%	42 / 3%
	HUBZone SBC Obligations ($) / Percent of Total (%)	$900,000 / 8%	$750,000 / 8%	$573,501 / 6%	$799,974 / 17%	$556,551 / 7%	$300,000 / 11%	$42,351,336 / 4%
P3	Total Phase III Awards ($)	$0	$0	$0	$96,488	$0	$0	$626,214,676
ADMIN	Technical Assistance ($)	$371,231	$30,000	$0	$0	$0	$130,500	$11,578,946
	Administrative Funding Pilot (3%) ($)	$122,201	No participation	No participation	$683 (NIST)	$24,877	No participation	$19,583,152
	Commercialization Readiness Program (CRP - DOD only) ($)	N/A	N/A	N/A	N/A	N/A	N/A	$6,073,392
	Civilian CRP Pilot ($)	Not established	$1,207,795	Not established	Not established	Not established	Not established	$4,082,504
TOTALS	Total SBIR Obligations ($)	$19,513,388	$18,545,115	$12,921,447	$6,920,475	$11,808,777	$4,987,637	$2,279,601,723
	Extramural R/R&D* ($)	$1,096,734,636	$364,006,984	$310,118,376	$298,039,863	$259,400,000	$148,525,800	$73,615,264,990
	SBIR Obligations as Share of Extramural R/R&D (%)	1.78%	5.10%	4.17%	2.32%	4.55%	3.36%	3.10%

* Some agencies reported this figure in terms of dollars obligated, while other agencies reported this figure in terms of amounts budgeted for the programs. See discussion on page 11.

FY14 STTR Program Summary Data

	REPORT FIELD	DOD	HHS	DOE	NASA	NSF	STTR TOTAL All Agencies
PHASE I	Solicitations Released (#)	2	2	2	1	2	9
	Proposals Received (#)	438	863	299	101	435	2,136
	Number of New Phase I Awards (#)	182	165	35	32	78	492
	Obligations for New Phase I Awards ($)	$17,285,755	$38,416,724	$5,505,790	$3,998,766	$17,482,167	$82,689,202
	Obligations on Prior-Year Phase I Awards ($)	$2,025,424	$4,116,729	$0	$0	$163,471	$6,305,624
	Total Obligations for Phase I Awards (New + Prior) ($)	$19,311,179	$42,533,453	$5,505,790	$3,998,766	$17,645,638	$88,994,826
	WOSB Proposals Received (#) / Percent of Total (%)	81 / 18%	101 / 12%	25 / 8%	15 / 15%	83 / 19%	305 / 14%
	WOSB Awards (#) / Percent of Total (%)	20 / 11%	23 / 14%	4 / 11%	3 / 9%	20 / 26%	70 / 14%
	WOSB Obligations ($) / Percent of Total (%)	$2,350,261 / 12%	$4,507,440 / 11%	$604,299 / 11%	$374,480 / 9%	$4,497,875 / 25%	$12,334,355 / 14%
	SDB Proposals Received (#) / Percent of Total (%)	53 / 12%	29 / 3%	9 / 3%	14 / 14%	68 / 16%	173 / 8%
	SDB Awards (#) / Percent of Total (%)	10 / 5%	6 / 4%	2 / 6%	4 / 13%	12 / 15%	34 / 7%
	SDB Obligations ($) / Percent of Total (%)	$1,198,890 / 6%	$1,357,579 / 3%	$374,729 / 7%	$498,110 / 12%	$2,674,316 / 15%	$6,103,624 / 7%
	HUBZone SBC Proposals Received (#)/Percent of Total (%)	19 / 4%	-	9 / 3%	2 / 2%	33 / 8%	63 / 3%
	HUBZone SBC Awards (#) / Percent of Total (%)	3 / 2%	-	1 / 3%	1 / 3%	7 / 9%	12 / 2%
	HUBZone SBC Obligations ($) / Percent of Total (%)	$100,616 / 1%	-	$150,000 / 3%	$124,905 / 3%	$1,555,075 / 9%	$1,930,596 / 2%
PHASE II	Proposals Received (#)	188	87	41	32	17	365
	Total Phase II Awards (Initial+Second) (#)	122	45	18	23	5	213
	"Second Phase II" Awards (subset) (#)	0	1	1	0	0	2
	Obligations for New Phase II Awards ($)	$30,875,637	$30,207,289	$18,289,010	$17,237,940	$3,600,182	$100,210,058
	Obligations for "Second Phase II" Awards (subset) ($)	$0	$368,266	$1,000,000	$0	$0	$1,368,266
	Obligations on Prior-Year Phase II Awards ($)	$16,766,463	$21,715,816	$0	$0	$345,190	$38,827,469
	Total Obligations for Phase II Awards (New + Prior) ($)	$47,642,100	$51,923,105	$18,289,010	$17,237,940	$3,945,372	$139,037,527
	WOSB Proposals Received (#) / Percent of Total (%)	44 / 23%	14 / 16%	2 / 5%	3 / 9%	4 / 24%	67 / 18%
	WOSB Awards (#) / Percent of Total (%)	20 / 16%	13 / 29%	2 / 11%	2 / 9%	1 / 20%	38 / 18%
	WOSB Obligations ($) / Percent of Total (%)	$4,659,135 / 10%	$6,651,048 / 13%	$1,846,087 / 10%	$1,499,705 / 9%	$734,890 / 19%	$15,390,865 / 11%
	SDB Proposals Received (#) / Percent of Total (%)	20 / 11%	1 / 1%	2 / 5%	3 / 9%	2 / 12%	28 / 8%
	SDB Awards (#)/ Percent of Total (%)	8 / 7%	1 / 2%	0	2 / 9%	1 / 20%	12 / 6%
	SDB Obligations ($) / Percent of Total (%)	$1,624,385 / 3%	$510,889 / 1%	$0	$1,499,939 / 9%	$734,890 / 19%	$4,370,103 / 3%
	HUBZone SBC Proposals Received (#) / Percent of Total (%)	6 / 3%	0	2 / 5%	0	0	8 / 2%
	HUBZone SBC Awards (#) / Percent of Total (%)	4 / 3%	0	2 / 11%	0	0	6 / 3%
	HUBZone SBC Obligations ($) / Percent of Total (%)	$858,876 / 2%	$0	$1,994,833 / 11%	$0	$0	$2,853,709 / 2%
ADMIN	Obligations for Technical Assistance ($)	$0	$20,000	$300,000	$10,000	$572,317	$902,317
	Obligations for "Phase 0" Programs (NIH only) ($)	N/A	$2,107,005	N/A	N/A	N/A	$2,107,005
TOTALS	Total STTR Obligations ($)	$66,953,279	$96,583,563	$24,094,800	$21,246,706	$22,163,327	$231,041,675
	Extramural R/R&D*	$31,556,545,718	$24,096,641,379	$6,055,252,234	$4,742,000,000	$4,688,000,000	$71,138,439,331
	STTR Obligations as share of Extramural R/R&D	0.21%	0.40%	0.40%	0.45%	0.47%	0.32%

* Some agencies reported this figure in terms of dollars obligated, while other agencies reported this figure in terms of amounts budgeted for the programs. See discussion on page 11.

- Indicates that the agency did not collect this data for FY14.

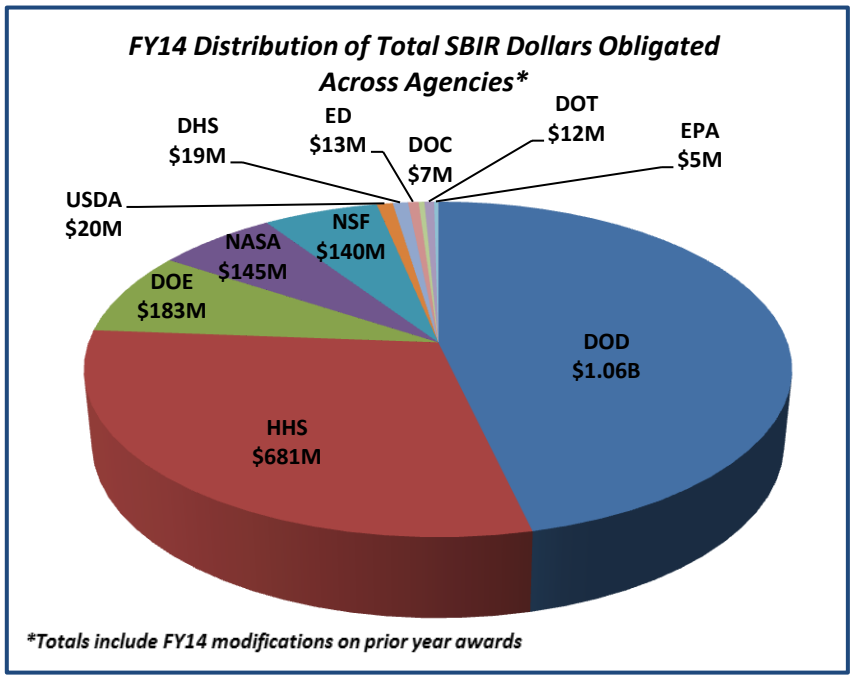
SBIR/STTR Program Award Distribution by Agency

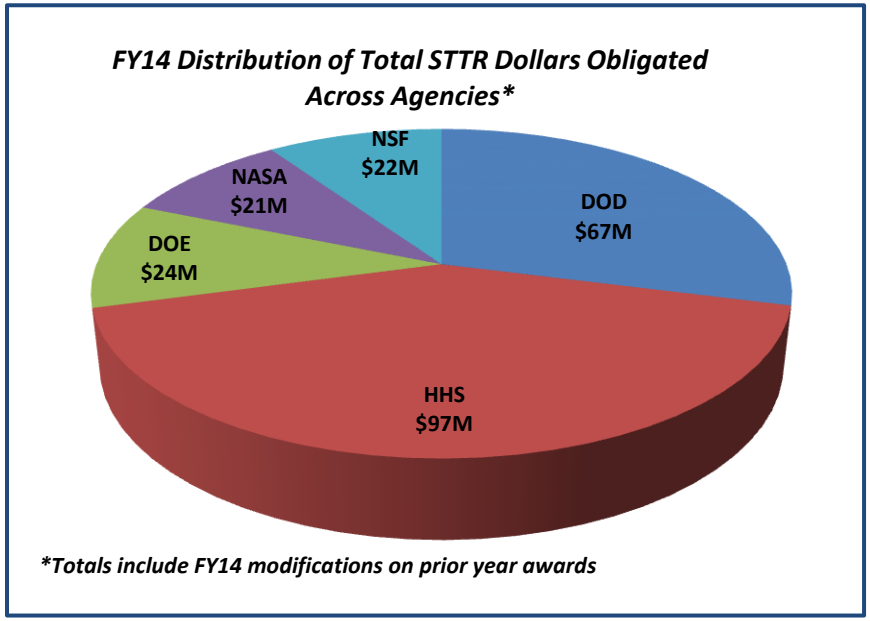
SBIR Awards

Particpating Agencies made a total of 4,675 SBIR Phase I and II awards in FY14, totaling nearly $1.6 billion in new Phase I and Phase II award obligations. 3,162 Phase I awards accounted for 68% of all new FY14 SBIR Awards and 31% of the total dollars at slightly over $488 million. The 1,513 new Phase II awards represented 32% of the total number of new awards obligated. At slightly over $1.1 billion, new Phase II awards represented 69% of all new SBIR award dollars.

Out of nearly $2.3 billion in FY14 SBIR award obligations, slightly over 76% came from DOD and HHS. Over 20% of total dollars was attributed to DOE, NASA, and NSF, with the remaining 4% of total FY14 SBIR award dollars being obligated by USDA, DHS, DOC, ED, DOT, and EPA.

Approximately $41.2 million of total SBIR obligations went to prior-year Phase I awards and $596.7 million went to prior-year Phase II awards.





STTR Awards

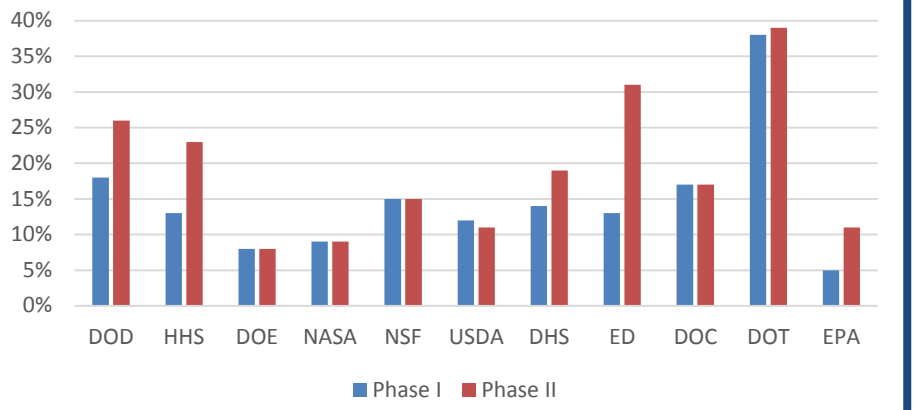
Particpating Agencies made a total of 705 new STTR awards in FY14, totaling nearly $183 million in new Phase I and Phase II award obligations. 492 Phase I awards accounted for nearly 70% of all new FY14 STTR awards and over 45% of the total dollars obligated for STTR awards at slightly over $82.7 million. 213 new Phase II awards represented 30% of the total number of new awards obligated and approximately 55% of all new STTR award dollars at slightly over $100 million.

Out of $231 million in total FY14 STTR obligations, approximately 71% was attributed to DOD and HHS.

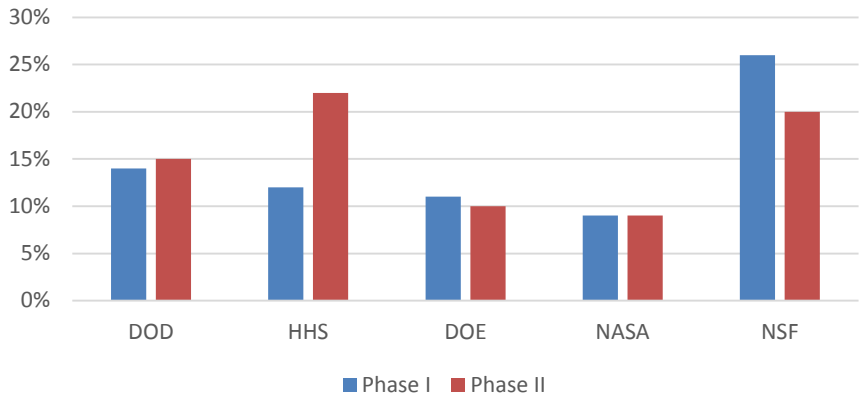
Approximately $6.3 million of total STTR obligations went to prior-year Phase I Awards and nearly $39 million went to prior-year Phase II awards.

SBIR/STTR Program Socio-Economic Award Data

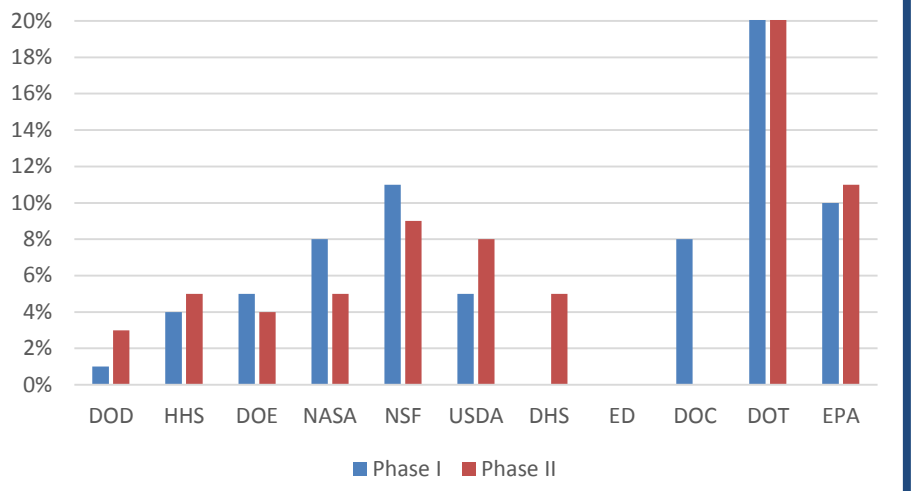
FY14 Percent of SBIR Award Dollars to Women-Owned Small Business Concerns



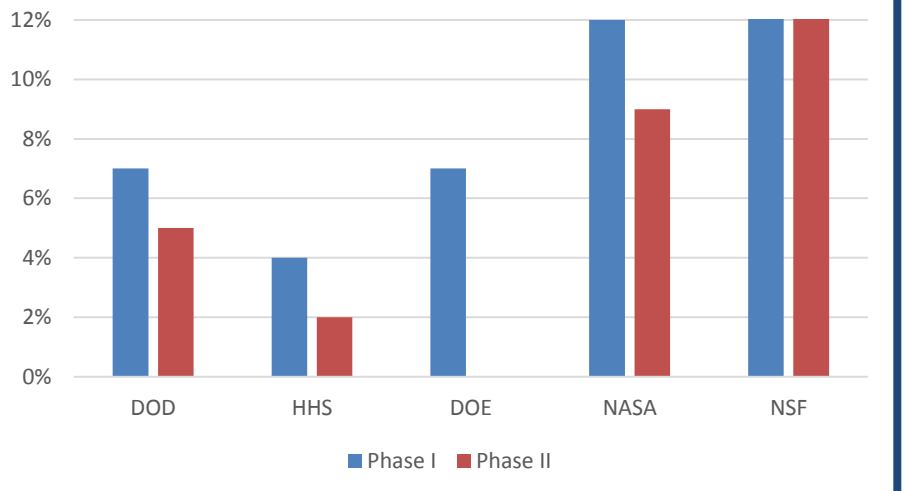
FY14 Percent of STTR Award Dollars to Women-Owned Small Business Concerns



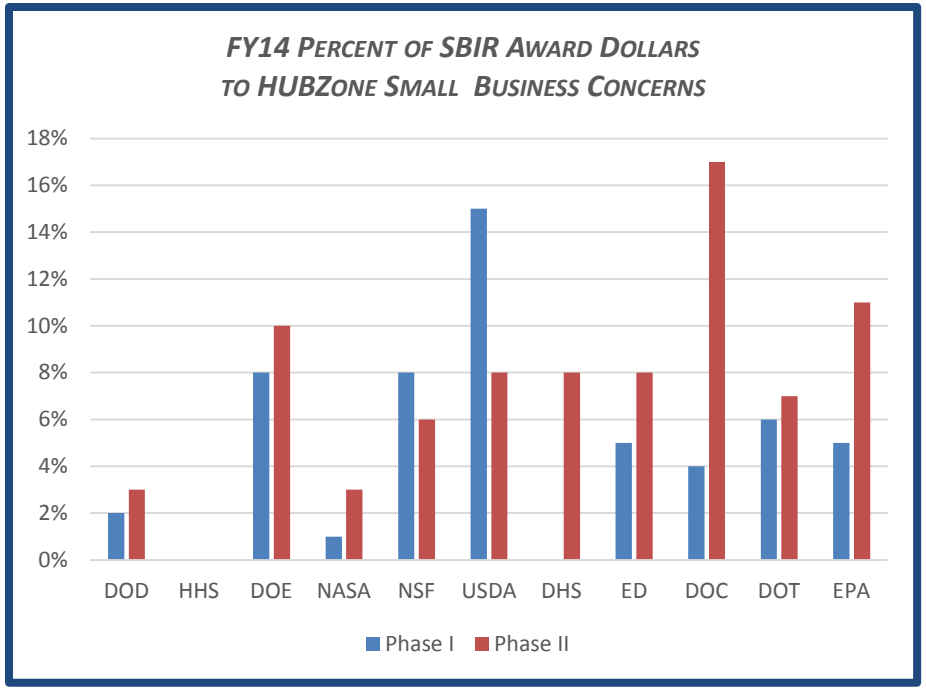
FY14 Percent of SBIR Award Dollars to Socially or Economically Disadvantaged-owned Small Business Concerns

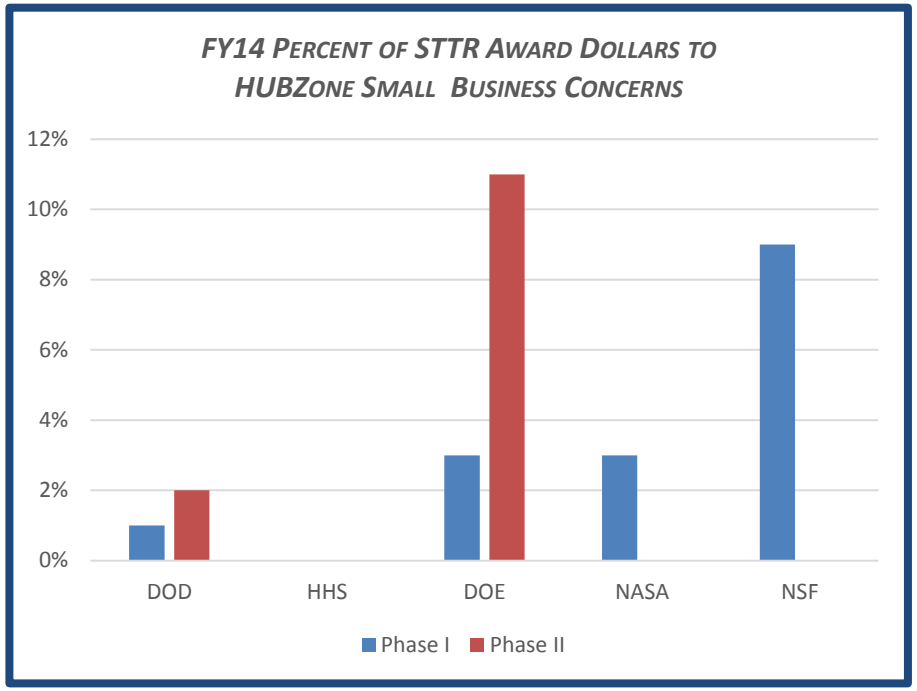


FY14 Percent of STTR Award Dollars to Socially or Economically Disadvantaged-owned Small Business Concerns



*In FY14 for SDBs, DHS did not report any SBIR Phase I awards, ED did not report any SBIR Phase I or II awards, DOC did not report any SBIR Phase II awards, and DOE did not report any STTR Phase II awards.


FY14 Percent of SBIR Award Dollars to HUBZone Small Business Concerns
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
DOD
HHS
DOE
NASA
NSF
USDA
DHS
ED
DOC
DOT
EPA
Phase I
Phase II


FY14 Percent of STTR Award Dollars to HUBZone Small Business Concerns
12%
10%
8%
6%
4%
2%
0%
DOD
HHS
DOE
NASA
NSF
Phase I
Phase II

SBIR/STTR Program Awards Exceeding Guideline Amounts

The Act currently sets guideline amounts for Phase I awards at $150,000 and Phase II awards at $1 million. Particpating Agencies with smaller budgets have traditionally chosen to solicit for award sizes at less than the guideline amounts, with the rationale that it is more effective to issue a larger number of awards to reach a wider range of possible solutions to R/R&D needs. Agencies with larger budgets have administered awards that exceed the guideline amounts with the rationale that in some cases larger award sizes are more effective, such as when dealing with capital intensive research projects, while their larger SBIR/STTR budgets still allow them to fund a sufficiently wide range of proposals under the guideline thresholds. Agencies may at their discretion exceed the guideline amounts by up to 50%, making the effective maximum award amounts - or the cap - at $225,000 for Phase I and $1.5 million for Phase II awards.

The Act provides that a Particpating Agency may request a waiver from the SBA to exceed the cap for certain awards. In the SBIR/STTR Policy Directives, the SBA established that an agency making such a request must provide the SBA with: 1) evidence that the limitations on award size interfere with the ability of the agency to fulfill its R/R&D mission; 2) evidence that the agency will minimize, to the maximum extent practicable, the number of awards that exceed the cap for the topic area; and, 3) evidence that research costs for the topic area differ significantly from those in other areas to warrant going over the cap. The latter becomes an important distinction for agencies, such as HHS (NIH), DOD, and DOE, where costs to mature technology to a level in which it can be transitioned, or commercialized to the next level, exceed the cap. For any agency waiver request approved, that agency must report to the SBA any such awards made to include the identity and location of each recipient.

FY14 Awards Exceeding Guideline Amounts*by More Than 50%

		DOD	***HHS***	***DOE***
SBIR	Phase I	0	200 / 24%	0
	Total Phase I	*1,359*	*822*	*214*
	Phase II	11 / 1%	80 / 25%	2 / 1%
	Total Phase II	*752*	*316*	*142*
STTR	Phase I	34 / 19%	0	0
	Total Phase I	*182*	*165*	*35*
	Phase II	0	8 / 18%	0
	Total Phase II	*122*	*45*	*18*

($225,000 for Phase I, $1,500,000 for Phase II)
****includes FY14 obligations on prior year awards***

For FY14, NIH requested, and the SBA approved, waivers granting NIH authority to solicit and make awards over the cap for specific topics, particularly for life science- and biomedical-related research topics involving clinical trials conducted within rigorous regulatory environments at substantially higher costs. The SBA approved NIH's waiver request under the condition that NIH would monitor and report quarterly to the SBA any awards exceeding a Phase I or Phase II cap. DOD (Air Force, MDA, OSD, and SOCOM) requested, and the SBA approved, waivers for awards exceeding the cap on a case-by-case/project-by-project basis. Detailed award information is located at https://www.sbir.gov/annual-reports-files.

"Second" Phase II Awards

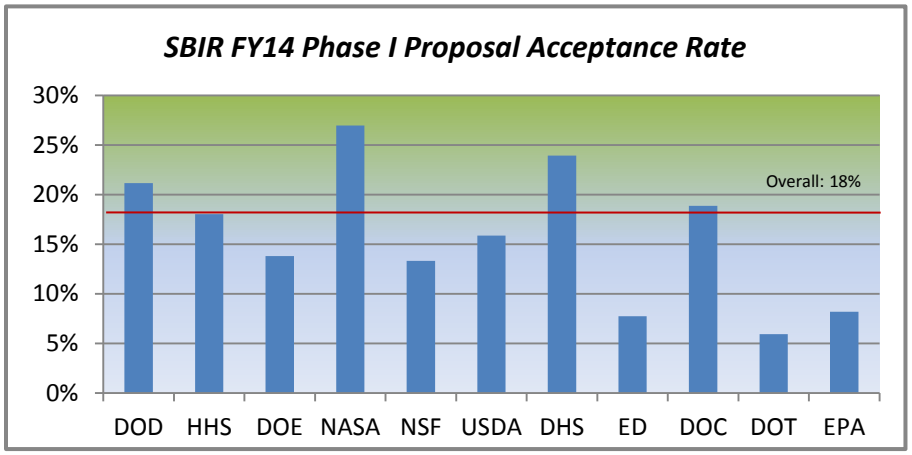
The Reauthorization Act also included a provision allowing Particpating Agencies to make second, sequential Phase II awards, which doubles the amount of Phase II dollars an agency may award to a Phase II awardee for a given project. As shown in the FY14 SBIR Summary Data tables on pages 15 and 16, four agencies made use of this new authority in FY14 in their SBIR Programs: DOD (76), HHS (24), DOE (22), and DOT (2). In addition, two of these agencies, HHS and DOE, issued one Second Phase II award in their STTR Programs.

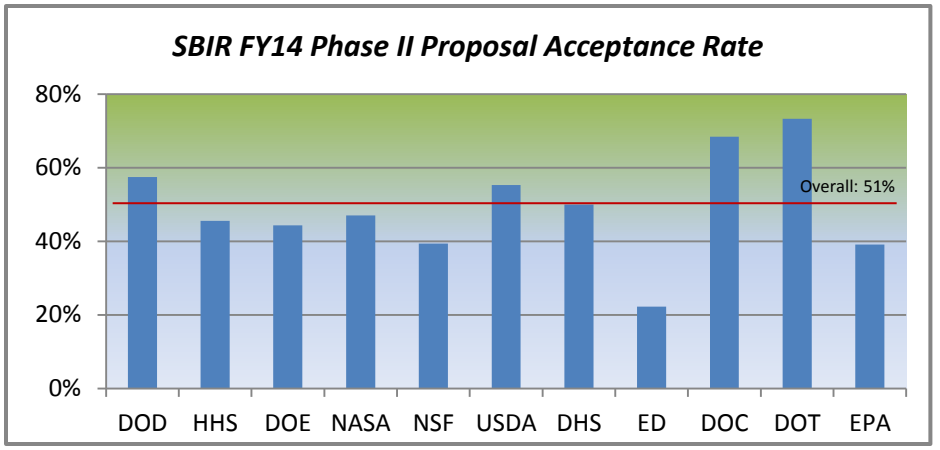
SBIR/STTR Program Proposal Acceptance Rates

Proposal acceptance rates are calculated by dividing the number of awards by the total number of proposals received. The SBA monitors the acceptance rates for Phase I Awards as a measure of the competitiveness of the program. For Phase II Awards, the SBA monitors the acceptance rates as an indicator of the quality of applicants that are building upon successful R/R&D efforts achieved through prior award funding.

SBIR Program

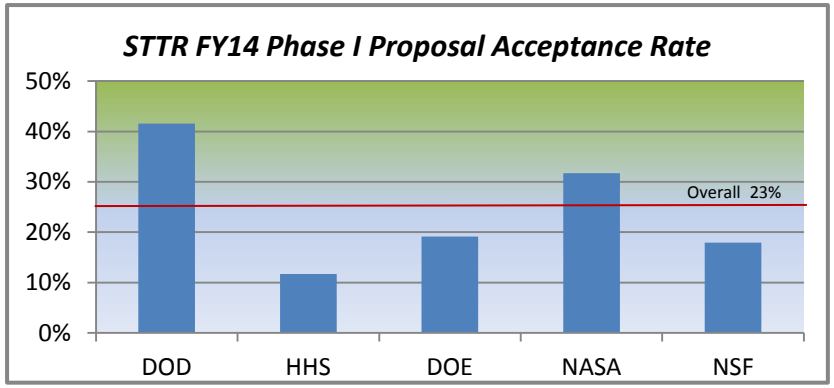
Across the 11 SBIR Particpating Agencies, small businesses submitted a total of 17,141 proposals for 3,162 new Phase I awards made in FY14, resulting in an overall Phase I proposal acceptance rate of 18%. Agencies received 2,996 proposals for 1,513 new Phase II awards made, resulting in an overall Phase II proposal acceptance rate of 51%.

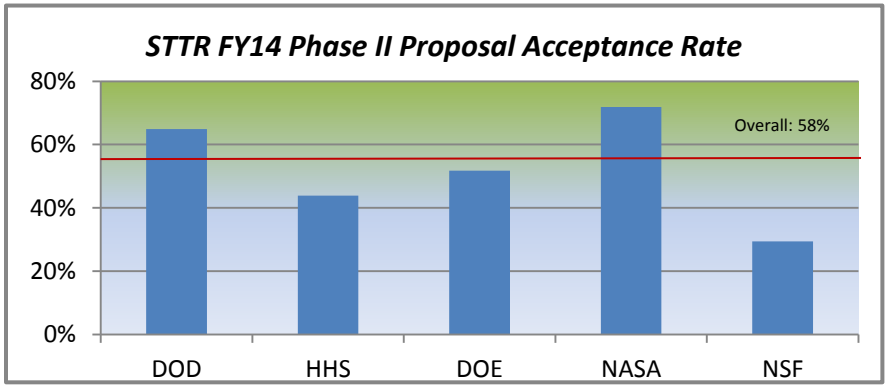




STTR Program

Across the five STTR Particpating Agencies, small businesses and research institutions submitted a total of 2,136 proposals for 492 new Phase I awards made in FY14, resulting in an overall Phase I proposal acceptance rate of 23%. Agencies received 365 proposals for 213 new Phase II awards made, resulting in an overall Phase II proposal acceptance rate of 58%.





SBIR/STTR Program Award Data by U.S. State and Territory

The following table shows the total dollar amount and number of SBIR and STTR Phase I and Phase II awards across the U.S. This data is also publicly available on a searchable database at www.SBIR.gov (which remains current to include subsequent funding of ongoing projects).

State	SBIR Phase I		STTR Phase I		SBIR Phase II		STTR Phase II		SBIR Total Awards		STTR Total Awards		SBIR/STTR Total Awards	
	(#)	($)	(#)	($)	(#)	($)	(#)	($)	(#)	($)	(#)	($)	(#)	($)
AK	1	$150,000	-	-	2	$1,197,833	-	-	3	$1,347,833	-	-	3	$1,347,833
AL	56	$7,356,895	8	$1,172,024	36	$32,164,732	12	$9,334,342	92	$39,521,627	20	$10,506,366	112	$50,027,993
AR	14	$2,883,720	1	$225,000	3	$3,021,692	-	-	17	$5,905,413	1	$225,000	18	$6,130,413
AZ	56	$8,597,917	10	$1,358,457	36	$29,683,057	9	$7,298,232	92	$38,280,974	19	$8,656,688	111	$46,937,663
CA	709	$122,332,096	93	$19,510,997	351	$319,678,576	40	$33,505,373	1060	$442,010,672	133	$53,016,369	1193	$495,027,041
CO	144	$20,006,266	12	$1,907,573	83	$72,538,185	5	$3,717,408	227	$92,544,451	17	$5,624,981	244	$98,169,432
CT	39	$5,985,169	8	$2,256,550	17	$17,097,267	4	$4,096,986	56	$23,082,436	12	$6,353,536	68	$29,435,972
DC	5	$1,322,700	-	-	2	$2,114,167	1	$1,049,155	7	$3,436,867	1	$1,049,155	8	$4,486,022
DE	13	$1,854,116	5	$1,019,934	6	$4,435,280	1	$999,982	19	$6,289,396	6	$2,019,916	25	$8,309,312
FL	87	$12,666,287	15	$2,314,445	44	$39,389,836	6	$4,498,615	131	$52,056,123	21	$6,813,060	152	$58,869,183
GA	25	$5,080,490	6	$1,144,947	21	$20,211,022	6	$5,851,289	46	$25,291,512	12	$6,996,236	58	$32,287,748
HI	19	$2,233,805	2	$444,799	6	$4,637,577	-	-	25	$6,871,382	2	$444,799	27	$7,316,181
IA	12	$1,665,482	3	$597,749	8	$11,104,779	-	-	20	$12,770,261	3	$597,749	23	$13,368,010
ID	5	$692,222	1	$79,794	2	$999,969	-	-	7	$1,692,191	1	$79,794	8	$1,771,985
IL	57	$8,365,261	17	$3,550,757	32	$28,937,328	4	$2,958,406	89	$37,302,590	21	$6,509,163	110	$43,811,753
IN	26	$4,306,133	10	$2,646,070	17	$15,644,108	-	-	43	$19,950,241	10	$2,646,070	53	$22,596,311
KS	12	$1,451,701	-	-	8	$6,653,802	1	$723,765	20	$8,105,503	1	$723,765	21	$8,829,268
KY	15	$2,956,356	8	$1,447,620	10	$10,889,918	1	$695,993	25	$13,846,274	9	$2,143,613	34	$15,989,887
LA	3	$524,862	1	$223,701	4	$2,530,374	-	-	7	$3,055,236	1	$223,701	8	$3,278,937
MA	349	$55,404,591	47	$8,177,680	175	$174,473,245	23	$22,723,985	524	$229,877,836	70	$30,901,665	594	$260,779,501
MD	160	$30,582,737	27	$4,416,996	79	$80,808,523	4	$2,939,051	239	$111,391,260	31	$7,356,047	270	$118,747,307
ME	5	$570,209	1	$224,647	1	$750,000	-	-	6	$1,320,209	1	$224,647	7	$1,544,856
MI	71	$10,736,466	10	$1,816,114	35	$32,983,519	3	$2,244,075	106	$43,719,985	13	$4,060,189	119	$47,780,174
MN	50	$9,478,891	7	$1,335,157	15	$14,512,719	2	$1,995,580	65	$23,991,610	9	$3,330,737	74	$27,322,347
MO	21	$4,551,788	2	$374,946	11	$8,865,452	-	-	32	$13,417,240	2	$374,946	34	$13,792,186
MS	1	$140,272	-	-	-	-	-	-	1	$140,272	-	-	1	$140,272
MT	16	$2,154,397	1	$149,948	10	$9,820,803	1	$1,000,000	26	$11,975,200	2	$1,149,948	28	$13,125,148
NC	62	$11,342,512	22	$4,774,141	34	$35,171,075	5	$4,948,148	96	$46,513,587	27	$9,722,289	123	$56,235,876
ND	2	$249,975	1	$224,981	-	-	1	$734,890	2	$249,975	2	$959,871	4	$1,209,846
NE	5	$1,113,405	3	$987,969	2	$1,726,294	1	$742,058	7	$2,839,699	4	$1,730,027	11	$4,569,726
NH	41	$5,941,052	6	$1,123,408	37	$32,799,114	4	$4,467,482	78	$38,740,166	10	$5,590,890	88	$44,331,056
NJ	61	$8,619,818	9	$1,794,946	40	$40,955,465	8	$7,045,245	101	$49,575,283	17	$8,840,191	118	$58,415,473

SBIR/STTR Program Award Data by U.S. State and Territory (continued)

State	SBIR Phase I		STTR Phase I		SBIR Phase II		STTR Phase II		SBIR Total Awards		STTR Total Awards		SBIR/STTR Total Awards	
	(#)	($)	(#)	($)	(#)	($)	(#)	($)	(#)	($)	(#)	($)	(#)	($)
NM	51	$7,686,805	6	$870,396	22	$18,902,577	5	$4,199,344	73	$26,589,382	11	$5,069,740	84	$31,659,122
NV	12	$2,046,289	3	$966,662	2	$1,528,202	-	-	14	$3,574,491	3	$966,662	17	$4,541,153
NY	131	$21,525,897	23	$5,096,268	70	$61,090,065	12	$11,054,883	201	$82,615,962	35	$16,151,150	236	$98,767,112
OH	128	$18,846,843	15	$2,645,857	63	$65,515,152	12	$8,752,562	191	$84,361,995	27	$11,398,419	218	$95,760,414
OK	10	$1,609,698	4	$1,142,540	2	$1,576,982	2	$1,749,985	12	$3,186,680	6	$2,892,525	18	$6,079,205
OR	40	$6,459,898	3	$744,046	24	$29,448,301	4	$4,617,766	64	$35,908,199	7	$5,361,812	71	$41,270,011
PA	136	$22,152,448	15	$2,726,404	61	$59,028,159	8	$6,239,913	197	$81,180,607	23	$8,966,317	220	$90,146,924
RI	11	$1,516,448	1	$79,754	4	$2,949,779	1	$749,427	15	$4,466,227	2	$829,181	17	$5,295,408
SC	14	$2,423,696	3	$1,017,592	7	$10,180,174	3	$3,398,855	21	$12,603,870	6	$4,416,447	27	$17,020,317
SD	4	$574,540	1	$224,946	2	$1,159,849	-	-	6	$1,734,389	1	$224,946	7	$1,959,335
TN	16	$2,246,971	5	$973,863	10	$9,882,171	1	$750,000	26	$12,129,142	6	$1,723,863	32	$13,853,005
TX	155	$23,739,351	28	$4,865,383	66	$60,963,118	5	$3,492,221	221	$84,702,469	33	$8,357,604	254	$93,060,073
UT	39	$6,281,067	4	$821,053	18	$17,268,802	3	$2,994,735	57	$23,549,869	7	$3,815,788	64	$27,365,657
VA	178	$24,091,748	35	$5,210,670	104	$91,644,074	12	$10,285,144	282	$115,735,822	47	$15,495,814	329	$131,231,636
VT	5	$867,838	1	$149,873	6	$6,585,407	-	-	11	$7,453,245	1	$149,873	12	$7,603,118
WA	64	$12,172,029	5	$946,639	20	$19,833,144	5	$4,279,946	84	$32,005,173	10	$5,226,585	94	$37,231,758
WI	34	$7,161,078	3	$950,000	17	$16,592,102	3	$1,949,956	51	$23,753,180	6	$2,899,956	57	$26,653,136
WV	-	-	-	-	1	$1,362,861	1	$749,997	1	$1,362,861	1	$749,997	2	$2,112,858
WY	4	$638,212	-	-	2	$1,048,433	1	$747,441	6	$1,686,645	1	$747,441	7	$2,434,086

The SBA has noted that most SBIR/STTR awards are made to small businesses located in the largest states and/or areas of economic clusters crossing several states:

- Approximately 67% of total FY14 SBIR award dollars were concentrated among the states of CA, MA, VA, MD, CO, TX, OH, NY, PA, and FL.
- Approximately 61% of total FY14 STTR award dollars were concentrated among the states of CA, MA, NY, VA, OH, AL, NC, PA, NJ, and AZ.

As such, the SBA and the Particpating Agencies have worked to coordinate outreach efforts and tap into the innovation pipelines within the 27 most underrepresented states of AK, AR, DE, HI, IA, ID, KS, KY, LA, ME, MO, MS, MT, ND, NE, NV, OK, PR, RI, SC, SD, TN, UT, VT, WV, and WY. Key outreach contacts have been identified within these states (and all states and territories) to include economic development agencies, universities, accelerators, and state or local small business service providers, to foster cross-collaboration, increase small business awareness, and encourage future participation in the SBIR/STTR Programs. Additionally, administrative funds to specifically enable outreach for SBIR/STTR participation in these underrepresented states have been allocated by the agencies and approved by the SBA.

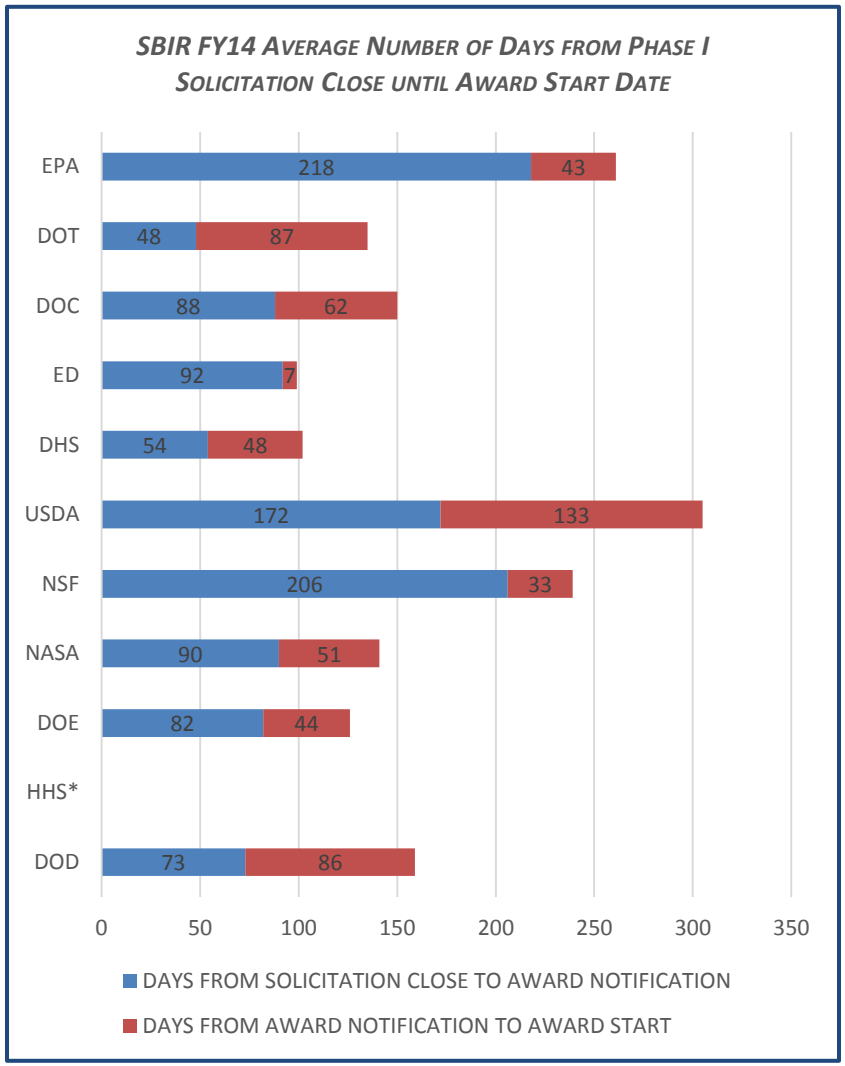
SBIR/STTR Award Timelines

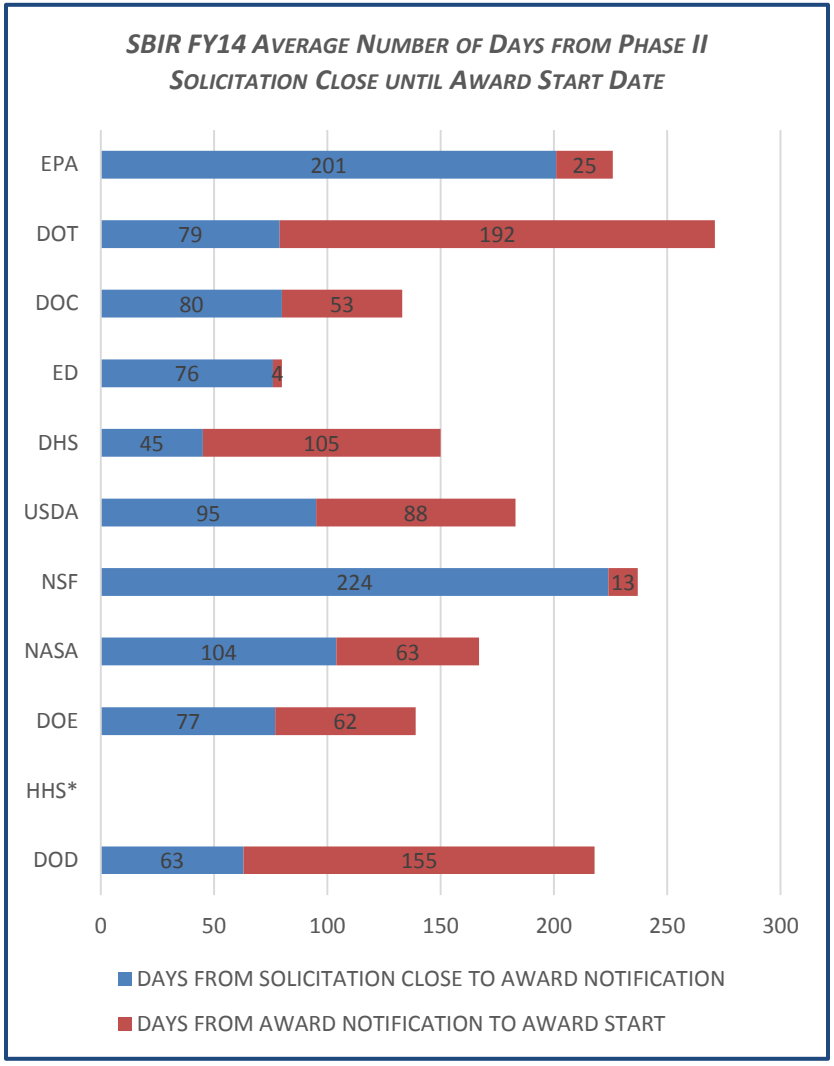
The Particpating Agencies were largely within the Congressionally prescribed maximum timeline (1 year for NIH and NSF and 90 days for all other agencies) in terms of the time taken from the Phase I proposal due date to award selection notification. The SBA SBIR Policy Directive prescribes the time between proposal due date and the start of the Award as 15 months for NIH and NSF and 180 days for other agencies. DOD, DOE, NASA, NSF, DHS, DOC, and DOT reported timelines within requirements. USDA and EPA showed timelines exceeding 6 months. Note that for HHS and DOE the timelines are slightly slower because Fast Track projects are included. Additionally, USDA uses an external scientific peer review process similar to NSF and NIH and cannot meet the 90 day maximum timeline from the Phase I proposal due date to award selection notification requirement. USDA has noted that the agency could meet the 1 year timeline as Congressionally prescribed for NIH and NSF.

SBIR Timelines	*DOD**	*HHS**	*DOE*	*NASA*	*NSF*	*USDA*	*DHS*	*ED*	*DOC*	*DOT*	*EPA*
Average time between Phase I Solicitation Close and Award Notification (days)	73	-	82	90	206	172	54	92	88	48	218
Average time between Phase I Notification and first day of period of performance (days)	86	-	44	51	33	133	48	7	62	87	43
Average time between Phase I Solicitation Close and first day of period of performance (days)	159	-	126	141	239	305	102	99	150	135	261
Percentage of Phase I Awards where the time between Solicitation Close and Notification was less than or equal to 90 days (1 year for HHS and NSF only)	68%	-	100%	100%	100%	0%	100%	0%	100%	100%	0%
Percentage of Phase I Awards where time between Solicitation Close and first day of performance was less than or equal to 180 days (15 months for HHS and NSF only)	77%	87%	99%	100%	100%	0%	100%	50%	100%	100%	0%
Average time between Phase I Award final day of period of performance and Phase II Award's first day of period of performance (days)	421*	-	179	167	234	281	161	35	154	367	349
Average time between Phase II Close Date and Award Notification (days)	63	-	77	104	224	95	45	76	80	79	201
Average time between Phase II Notification Date and first day of Period of Performance (days)	155	-	62	63	13	88	105	4	53	192	25
Average time between Phase II Solicitation Close and first day of period of performance (days)	218	-	139	167	237	183	150	80	133	271	226
Percentage of Phase II Awards where time between Solicitation Close or Proposal Receipt and Notification Date was less than or equal to 90 days (1 year for HHS and NSF only)	86%	-	95%	0%	99%	0%	62%	13%	69%	64%	0%
Percentage of Phase II Awards where time between Solicitation Close or Proposal Receipt and first day of performance was less than or equal to 180 days (15 months for HHS and NSF only)	50%	100%	90%	82%	100%	0%	85%	63%	54%	73%	0%

- *HHS did not have the capacity to collect and report all data based on Reauthorization Act changes during FY14.
- *DOD awards sequential Phase IIs and data shown includes time from Phase I end to the start of all Phase IIs regardless if it is the initial award or a sequential award.

SBIR/STTR Award Timelines (continued from previous page)

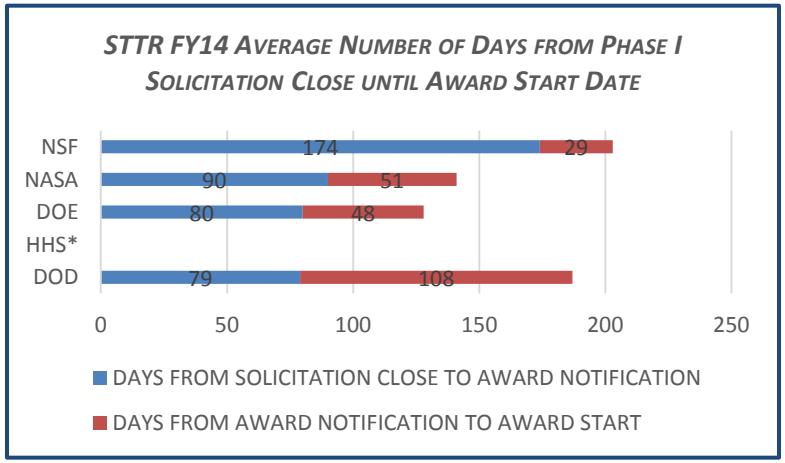


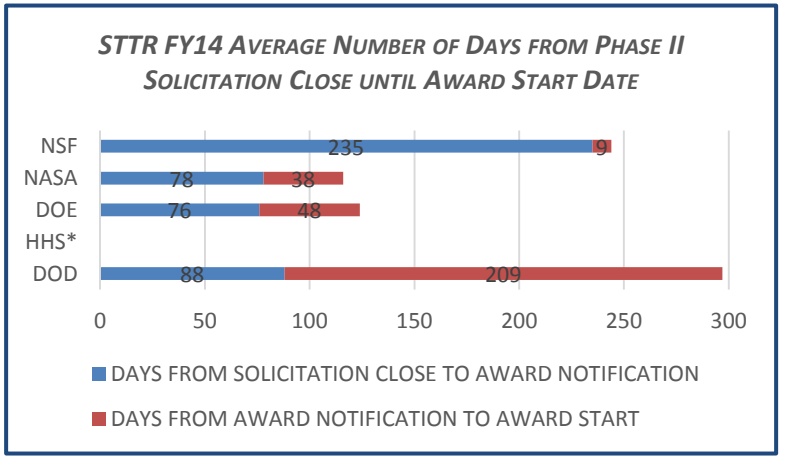


*HHS did not have the capacity to collect and report all data based on Reauthorization Act changes during FY14.

SBIR/STTR Award Timelines (continued from previous page)

STTR Timelines	*DOD*	*HHS**	*DOE*	*NASA*	*NSF*
Average time between Phase I Solicitation Close and Award Notification (days)	79	-	80	90	174
Average time between Phase I Notification and first day of period of performance (days)	108	-	48	51	29
Average time between Phase I Solicitation Close and first day of period of performance (days)	187	-	128	141	203
Percentage of Phase I Awards where the time between Solicitation Close and Notification was less than or equal to 90 days (1 year for HHS and NSF only)	92%	-	100%	100%	100%
Percentage of Phase I Awards where time between Solicitation Close and first day of performance was less than or equal to 180 days (15 months for HHS and NSF only)	66%	-	97%	100%	100%
Average time between Phase I Award final day of period of performance and Phase II Award's first day of period of performance (days)	203	-	691	116	228
Average time between Phase II Solicitation Close Date or Proposal Receipt Date and Award Notification (days)	88	-	76	78	235
Average time between Phase II Notification Date and first day of Period of Performance (days)	209	-	48	38	9
Average time between Phase II Solicitation Close and first day of period of performance (days)	297	-	124	116	244
Percentage of Phase II Awards where time between Solicitation Close or Proposal Receipt and Notification Date was less than or equal to 90 days (1 year for HHS and NSF only)	61%	-	100%	100%	100%
Percentage of Phase II Awards where time between Solicitation Close or Proposal Receipt and first day of performance was less than or equal to 180 days (15 months for HHS and NSF only)	20%	-	94%	100%	100%





- *HHS did not have the capacity to collect and report all data based on Reauthorization Act changes until mid/late FY14.

SBIR/STTR Administrative Funding Pilot (AFPP) Program

The Reauthorization Act created a new pilot program permitting Particpating Agencies to use up to 3% of their SBIR funding for administrative purposes for both the SBIR and STTR Programs through; however, this pilot will expire at the end of FY 2017. The SBA required each Particpating Agency using the authority to implement the Administrative Funding Pilot Program (AFPP) to submit a work plan including estimated costs for SBA approval. Each proposed plan was required to address efforts supporting material improvements in program performance, such as streamlining award processes, reporting, and outreach.

The SBA received and approved work plans from eight agencies: DOC, DOD, DOE, DOT, HHS, NASA, NSF, and USDA. However, none fully utilized the maximum 3% amount allowable. The SBA approved $56,690,500 of FY14 SBIR award dollars in agency AFPP plans yet only $20,285,352, or 30% of the amount allowable, was obligated by these agencies. The difference between the estimated and the actual obligated amounts is primarily attributed to the constraints surrounding the timing of: 1) signing of agency appropriations; 2) receipt of SBIR dollars by program office; and, 3) the amount of time available to make obligations after the necessary budget information was received and before the end of the fiscal year. Another major challenge agencies faced was gaining approval for additional staff or making multi-year contract awards under the authority of a 3-year pilot program in its second year. DHS, ED, and EPA did not participate in the AFFP for FY14. As the smallest SBIR Particpating Agency, EPA did not participate in the pilot so that the 3% of funding could be used for SBIR awards.

The SBA anticipates Particpating Agencies will obligate and more fully utilize the 3% administrative funding in future fiscal years, as the agencies have a better understanding of the added flexibilities and program support the AFPP resources afford them in targeting program office needs, conducting outreach, and more successfully meeting the R/R&D needs of their agencies. Initial agency feedback indicates positive outcomes from early efforts, and the SBA expects additional reporting years to provide more meaningful data to adequately measure results.

FY14 utilization of AFPP allowed Particpating Agencies to dedicate resources to: update and/or upgrade information technology systems to accommodate new reporting requirements; modify program application, review, and selection processes and procedures to shorten award timelines; develop targeted marketing, outreach, and commercialization plans and programs for underrepresented groups; assess prior awardee commercialization efforts; and increase participation in small business R/R&D-related collaborative events.

SBA is developing a standalone report for FY14 that will provide details about the Particpating Agencies' AFPP plans and outcomes in the areas of Outreach; Commercialization; Streamlining and Simplification; Prevention and Detection of Fraud, Waste, and Abuse; Reporting; and Administration and Implementation of Reauthorization.

DEPARTMENT OF DEFENSE COMMERCIALIZATION READINESS PROGRAM (CRP)

The Commercialization Readiness Program (CRP) was originally authorized and created as part of the National Defense Authorization Act of Fiscal Year 2006 as the Commercialization Pilot Program (CPP) under the Secretary of Defense and the Secretary of each Military Department. Under the Reauthorization Act, the CRP was made permanent through September 30, 2017. The purpose of the CRP is to accelerate the transition of DOD SBIR/STTR-funded technologies to Phase III, especially those providing significant benefit to the nation's warfighters in improved performance, new capabilities, increased reliability, and cost savings well exceeding investment. Phase III commercialization work derives from, extends, or completes efforts made under prior funding agreements under the SBIR/STTR Programs, and requires small businesses to obtain funding from the private sector and/or non-SBIR/STTR government sources. Under the CRP, up to 1% of the available SBIR funding may be used by DoD Services and Components for administrative support to provide non-financial resources through activities that enhance the connectivity among SBIR/STTR firms, prime contractors, and DOD science & technology and acquisition communities. The CRP may also support improving a firm's capability to provide an identified technology to a Department, directly or as a subcontractor.

Department of the Army (Army). Under the Army's CRP approach, technical points of contact for all Phase II efforts are tasked to work with relevant Program Executive Offices (PEOs) and small businesses to identify opportunities where a promising technology has a strong transition potential if technical barriers to PEO adoption are met. Examples of such barriers are need for higher technical maturity, need for additional test articles, and minor specification changes to prototypes to meet PEO designs. These opportunities are vetted by the sponsoring organization and PM SBIR and must include: Technical Director concurrence; tangible investment from the transitioning PEO or other transition partner(s); and, a Statement of Work and Cost Proposal. These requirements ensure that there is real transition opportunity, all stakeholders agree with the approach and investments, and the opportunity can be addressed in a timely manner. In FY14, the Army CRP focused on 30 projects with total FY14 CRP obligations of $117K with an additional $1.5M of FY14 dollars planned for FY15. Since inception, 101 Army projects have been supported by CRP efforts and led to a total SBIR/STTR funding of $63.6M and total non-SBIR/STTR funding of an additional $60.9M.

Department of the Navy (DON). The DON CRP applies approximately 20% of overall SBIR funding to support a selected group of CRP projects that meet a high-priority DON need and demonstrate potential for rapid transition into an acquisition Program of Record, fielded system, or future naval capability. In FY14 CRP funds were obligated for project management/execution including program office support, database management/reporting, contracting, acquisition office assistance, and outreach/prime contractor coordination. CRP funds also supported firm assistance including due diligence, transition planning, risk reduction assessments and planning, manufacturing/production readiness assessments, technical readiness assessments, and market analysis. In FY14, the DON CRP supported 29 projects with total FY14 CRP obligations of $803K with an additional $1.617M in FY14 dollars planned for Fiscal Year 2015.

Since inception, 273 DON CRP projects have been supported with total SBIR/STTR funding of over $504M, representing funding for acceleration of transition efforts, over $327 million in direct government funding (Phase IIIs) and an additional $526 million in non-government funding as reported in Company Commercialization Reports.

Department of the Air Force (AF). The AF CRP brings together key stakeholders to identify and accelerate the maturation and transition of high potential SBIR/STTR projects to the warfighter or commercialization. CRP Transition Agents (TAs) embedded in each AF Center and the Air Force Research Laboratory (AFRL) help focus SBIR/STTR topics on high-priority technology needs and work with small businesses, system program offices (SPOs), SBIR Program Managers, Technical Points of Contact (TPOCs), and industry technology integrators to identify transition objectives, tasks, timing, responsibilities, and funding sources documented in non-binding SBIR Technology Transition Plans (STTPs). Maturation of high potential SBIR/STTR projects is documented in non-binding SBIR Technology Maturation Plans (STMPs) which accelerate SBIR/STTR technologies into Phase III applied research or advanced development projects. In FY14, the AF CRP funded 49 projects (46 STTPs and 3 STMPs) with total FY14 CRP obligations of $2.6M. Since inception 422 AF CRP projects have been supported with total SBIR/STTR funding of $421.4M and total non-SBIR/STTR funding of $956.2M. SBIR/STTR funding includes Phase I, Phase II, and enhancements to CRP approved projects. Non-SBIR/STTR funding sources include industry's Independent Research and Development (IR&D), SBIR firm investment, AF Programs of Record, AFRL core budget, DOD transition funds, and state small business funds. Twenty-five major contractors participated in STTP/STMP projects.

In FY14, DOD obligated $3.6M of its $6.8M FY14 CRP budget to enhance the insertion or transition of 108 SBIR or STTR projects. The full DOD FY14 CRP report that includes detailed information on the individual Departments' activities and initiatives is located at https://www.sbir.gov/annual-reports-files.

Commercialization Readiness Pilot Program for Civilian Agencies (CRPP)

As described in the SBA SBIR Policy Directive Section 12(c)(1)(i), the Commercialization Readiness Pilot Program for Civilian Agencies (CRPP) allows an agency to use up to 10% of its SBIR/STTR "for follow-on awards to small businesses for technology development, testing, evaluation, and commercialization assistance for SBIR or STTR Phase II technologies; or (ii) for awards to small businesses to support the progress of research, research and development, and commercialization conducted under the SBIR or STTR Programs to Phase III." The size of these awards may be up to three times the Phase II guideline amount. HHS (NIH), DOE, NASA, DHS, and DOC (NIST) were approved to establish a CRPP at the end of FY13, only NASA and DHS obligated or expended program funds in FY14. DOC had no funding activity to report for FY14 and HHS expects to issue a CRPP solicitation in FY15 due to a lengthy process of internal agency input, refinement, and clearances.

National Aeronautics and Space Administration (NASA). NASA modeled many aspects of its CRPP implementation after the Air Force CRP. The objective of the CRPP is an infusion into a NASA application or a commercialization to industry, not an incremental improvement in technology readiness level alone. Technology maturation without infusion or commercialization is not in the scope of the CRPP. The CRPP is intended to provide the bridge to infusion and commercialization for technologies which could not accomplish this within other funding opportunities. The NASA CRPP operates as a matching funding arrangement, with a 1:1 ratio target (SBIR/STTR to non-SBIR/STTR funds).

During FY14, NASA worked with a few targeted programs to pilot a tiered approach to collaborating and jointly funding a project. Out of 17 applications, nine CRPP efforts were funded in this pilot year. In FY15, NASA will offer two distinct cycles for CRPP applications.

Department of Homeland Security (DHS). This amount includes the amount obligated by the S&T Directorate's SBIR Program Office for the four assistance organizations ($286,000), as well as the amount obligated for the five CRPP awards made directly to S&T SBIR

awardees ($921,795). Three of the four assistance organizations were under contract during FY14; the fourth is pending award in FY15, but the funds are obligated at the contracting service activity. On August 29, 2013, the DHS S&T SBIR Program Office obtained approval from the SBA to administer its civilian CRPP, beginning in FY14. The S&T Directorate's SBIR CRPP is utilized to solve three basic issues that are involved in transitioning any new product to market: technology maturation, business maturation, and end-user knowledge. In FY14, the S&T Directorate's SBIR CRPP addressed each of these issues and potentially additional barriers that are often detrimental to successful technology transition by utilizing (or reserving) $1,207,795 of FY14 S&T Directorate SBIR funds (as reported on page 15 of this Annual Report).

Technology Maturation: The DHS SBIR Program Office measures both the technology maturation and the business maturation of its SBIR projects using the Technology Readiness Level (TRL) scale and the Business Readiness Level (BRL) scale. The TRL is a measurement/milestone of a technology's maturation. There are nine levels on the TRL scale ranging from concept (TRLs 1 to 3) to technology development (TRLs 4 to 6) to product development (TRLs 7 to 9). The CRPP with respect to this issue is attempting to move the TRL scale from the 4 to 6 range to TRL 7.

The CRPP funded five CRPP awards during FY14. The companies, project titles, and award amounts are as follows:

- Spectral Labs Inc.; Multi-Function Wand Prototype Development; $224,993
- Endeavor Inc.; Multi-Layer Ever-changing Self-Defense Service; $99,995
- Integrated Solutions for Systems; Portable Vehicle Wash Tunnel; $198,161
- Toyon Research Corporation; Signal Processing for a Southern Border Surveillance System; $198,648
- Applied Visions, Inc.; Visual Analytics for Triage Source Code Vulnerabilities; $199,999

Business Maturation: The data for business maturation derived from the DHS SBIR 2013 survey of completed Phase II projects indicated that 37 percent of the projects no longer being funded post-Phase II were due to several market factors and/or a lack of a customer base. Although the technical aspects of the technology may be correlated to TRLs 4 to 6, the business aspects were not on the concurrent BRL levels 4 to 6. In FY14, the DHS S&T Directorate's SBIR Program Office worked with the Contracting Officer to extend a previously awarded contract with its Commercialization Assistance Program vendor (Dawnbreaker) by three months to continue efforts in helping SBIR awardees with business maturation. During FY14, the intent was to award a new CRPP assistance vendor contract. However, the contract was not able to be awarded in FY14 as planned but will be awarded in FY15 utilizing FY14 SBIR Program funding (~$100,000).

End-User Product Knowledge: The technology may be technically successful but if the market is unaware of its existence or of its potential, it serves no useful purpose. The DHS S&T Directorate's SBIR CRPP begins to solve this issue through memberships in:

- Auto Harvest Foundation: $100,000
- Pitch Book Data: $16,000
- Inknowvation: $70,000

The DNDO's SBIR Program does not administer a civilian CRPP.

OTHER SBIR/STTR AGENCY REPORTING REQUIREMENTS

AWARDS TO SMALL BUSINESSES MAJORITY-OWNED BY VENTURE CAPITAL OPERATING COMPANIES

The Reauthorization Act of 2011 provides pilot authority to SBIR Particpating Agencies to use a portion of their program funds for awards to firms that are majority-owned by multiple Venture Capital Operating Companies (VCOCs), hedge funds (HFs) or private equity firms (PEFs). HHS's NIH and DOE's Advanced Research Projects Agency-Energy (ARPA-E) elected to begin using this authority in 2013. On July 30, 2014, HHS's Centers for Disease Control and Prevention (CDC) also elected to begin using this authority. For FY14, the two agencies reported the following:

HHS. HHS's NIH SBIR solicitations issued after January 28, 2013 allowed firms majority-owned by multiple VCOCs, HFs, or PEFs to apply to the NIH SBIR Program. In FY14 NIH received 12 Phase I Applications and 4 Phase II applications from firms that are majority-owned by multiple VCOC, HFs, or PEFs. NIH made 10 SBIR awards to majority-owned portfolio companies – 7 Phase I awards and 3 Phase II awards – for a total amount of $4.5 million, representing less than 1% of NIH's SBIR set-aside for FY14 and well below the 25% statutory threshold. HHS SBIR solicitations with CDC participation issued after July 30, 2014, allowed portfolio companies of VCOCs to apply to the CDC SBIR Program. The first such solicitation did not close until FY15; therefore, CDC made zero (0) awards and spent $0 on majority-owned portfolio companies in FY14. CDC will monitor SBIR applications in FY15 and beyond, in conjunction with the NIH SBIR coordinating office, to ensure that no more than 15% of the CDC SBIR set-aside is awarded to majority-owned portfolio companies in each year. HHS asserted controls are in place to ensure that overall spending on portfolio companies would not exceed 25% of its FY14 SBIR set-aside.

DOE. Pursuant to Section 5107 of the SBIR/STTR Reauthorization Act of 2011, ARPA-E submitted notification to SBA and Congress of its intention to utilize the Section 5107 authority granted to the Secretary of Energy on August 29, 2013. To identify SBIR applicants that are funded in majority part by multiple VCOCs, hedge funds, or private equity firms, ARPA-E required such entities to submit a certification form with their Full Applications that conforms to the "Certification for Applicants that are Majority-Owned by Multiple [VCOCs], Hedge Fund, or Private Equity Firms." In making awards, ARPA-E ensured that it did not make awards to such entities that exceeded 25% of ARPA-E's total SBIR obligations for FY14. Avogy, Inc. received a Phase I for $225K, a Phase II for $1.5M, and a sequential Phase II for $1.5M. Avogy also received $750K in cost share funding. Soraa, Inc. received one Phase I award for $225K.. SBA requested that ARPA-E provide the number of proposals received during FY14 from firms that are majority owned by VCOCs, hedge funds, and private equity firms but the ARPA-E was not able to provide that information.

PHASE III APPEALS

Pursuant to Section 4(c)(8) of the SBIR/STTR Policy Directives, Particpating Agencies are to notify the SBA before they pursue follow-on work on a technology developed under an SBIR/STTR Award with an entity other than the SBIR/STTR Awardee that developed the technology. The SBA did not receive such a notification from a funding agency during FY14. The SBA may also be contacted directly by SBIR/STTR awardees seeking assistance with perceived violations of the Phase III preference requirements or SBIR/STTR data rights. In such cases, the SBA works with the awardee and the relevant agency to resolve the issue and may, if warranted, appeal an agency decision or action to pursue Phase III work with another entity.

During FY14, the SBA continued to work with NAVSYS, Inc., and the Department of the Army regarding a FY13 case where NAVSYS asserted that the Army's Project Manager of Combat Ammunition Systems (PM CAS) failed to provide preference to the company for follow-on work that derived from one of NAVSYS's prior SBIR projects. SBA contacted PM CAS with NAVSYS's assertion and in FY14, the Army responded to SBA with its assertion that the project did not fall within the framework of being considered a Phase III award via memorandum dated April 3, 2014,

detailing the rationale for the consideration and expanding on a previous memorandum regarding the same matter sent to the SBA on August 8, 2013. Additionally, Senior Army Acquisition leaders met with the President of NAVSYS to explain the Army's position on August 14, 2014. In a separate FY14 case, Physics, Materials, and Applied Mathematics Research, L.L.C. (PM&AM), notified the SBA that the Joint Non-Lethal Weapons Program (through an Office of Naval Research solicitation) had issued a broad agency announcement that disclosed some of the company's SBIR Phase III protected data. The SBA contacted Navy personnel to clarify SBIR policy regarding data rights and Phase III. The Navy later withdrew the portion of the announcement that solicited the protected technology.

Agency Compliance with E.O. 13329 Encouraging Innovation in Manufacturing

Section 9(ss) of the Small Business Act, 15 U.S.C. § 638(ss) requires that the annual report contain the following information about Executive Order (E.O.) 13329:

(1) a description of efforts undertaken by the head of the Federal agency to enhance United States manufacturing activities;
(2) a comprehensive description of the actions undertaken each year by the head of the Federal agency in carrying out the SBIR or STTR Program of the agency in support of Executive Order 13329 [note to this section] (69 Fed. Reg. 9181; relating to encouraging innovation in manufacturing);
(3) an assessment of the effectiveness of the actions described in paragraph (2) at enhancing the research and development of United States manufacturing technologies and processes;
(4) a description of efforts by vendors selected to provide discretionary technical assistance under subsection (q)(1) to help SBIR and STTR concerns manufacture in the United States; and
(5) recommendations that the Program Managers of the SBIR or STTR Program of the agency consider appropriate for additional actions to increase the effectiveness of enhancing manufacturing activities.

Pursuant to E.O. 13329, agencies must give priority to small business concerns that participate in or conduct R/R&D "…relating to manufacturing processes, equipment and systems; or manufacturing workforce skills and protection." Each Particpating Agency includes in its Annual Report to the SBA a synopsis of its implementation of these requirements. Agencies utilized a variety of approaches in addressing the E.O. 13329 directive. For most, these requirements are assessed within the scope of each agency's R/R&D needs with tangible numbers of solicitation topics, awards, and dollars. Mechanisms commonly used by Particpating Agencies to give priority to manufacturing-related work include: adding manufacturing-related topics in solicitations; requesting in solicitations that proposals address any possible manufacturing-related elements of the small businesses' proposed work, technological approach, delivery or resulting technological applicability to manufacturing processes; and, noting in solicitations that including such elements in proposals may provide a competitive advantage in the award selection process. Additionally, cross-agency collaborations, targeted outreach efforts, and other agency-specific activities related to manufacturing contribute to addressing the objectives of E.O. 13329. Detailed information on the individual agencies' activities and initiatives is located at https://www.sbir.gov/annual-reports-files.

Agency Compliance with the Energy Independence and Security Act of 2007 (EISA)

Section 9(z) of the Small Business Act, 15 U.S.C. §638(z) requires that the annual report include a determination of whether the priority described below is being carried out:

(A) ensure that such departments and agencies give high priority to small business concerns that participate in or conduct energy efficiency or renewable energy system research and development projects; and
(B) include in the annual report to Congress under subsection (b)(7) a determination of whether the priority described in subparagraph (A) is being carried out.

Pursuant to the Energy Independence and Security Act of 2007 (Pub. L. No. 110-140) and Policy Directives issued by the SBA, Particpating Agencies must give high priority to small business concerns that participate in or conduct energy efficiency or renewable energy system R/R&D projects. Agencies utilize a variety of approaches to comply with EISA and the Policy Directives. For some, such as DOE, these efforts are engrained in the agency mission and therefore easy to assess in very tangible ways. Mechanisms commonly used by Particpating Agencies – aside from specifically adding energy related topics in solicitations – include adding that solicitation proposals address any energy efficiency or renewable energy aspects related to the small businesses' technological approach, delivery or technological applicability and often provide such proposals a competitive advantage in the award selection process. Cross-agency collaborations, outreach efforts, and other initiatives also become critical to assessing the collective achievements of the program rather than focusing on individual agency performance. Each Particpating Agency's Annual Report addresses EISA compliance by including: examples of SBIR/STTR projects related to energy efficiency or renewable energy; procedures and mechanisms used during the reporting fiscal year to give priority to energy efficiency and renewable energy projects in SBIR/STTR; and, specific actions taken to promote and support energy efficiency and renewable energy research projects. Detailed information on the individual agencies' activities and initiatives is located at https://www.sbir.gov/annual-reports-files.

Interagency Policy Committee (IPC)

The Interagency Policy Committee (IPC), as created by the Reauthorization Act, is co-chaired by the SBA and the White House Office of Science and Technology Policy (OSTP). The IPC is comprised of representatives from all SBIR/STTR Particpating Agencies with the collective purpose to review issue areas and make policy recommendations on ways to improve SBIR/STTR Program effectiveness and efficiency. Throughout FY14, the SBA, OSTP, and the Particpating Agency representatives collaborated through the IPC in bimonthly meetings at the SBA to formulate the policy recommendations submitted to Congress on September 15, 2014, through 5 individual reports: 1) *Outreach*; 2) *Commercialization*; 3) *Award Size Flexibility*; 4) *TechNet Public & Government Databases*; and, 5) *Standard Evaluation Framework* (available on the www.SBIR.gov portal). The IPC also achieved significant accomplishments in the areas of government data and reporting mechanisms through continued build-out of the www.SBIR.gov portal for registered users, creating administrative and programmatic efficiencies for agency reporting officials and small businesses participating in the SBIR/STTR Programs.

Annual Report on SBIR/STTR Program Goals

Section 15 USC § 638(nn) was added to the 2011 Reauthorization and requires "The head of each Federal agency required to participate in the SBIR program or the STTR program shall develop metrics to evaluate the effectiveness and the benefit to the people of the United States of the SBIR program and the STTR program of the Federal agency that are science-based and statistically driven; reflect the mission of the Federal agency; and include factors relating to the economic impact of the programs." It further requires the agency to conduct an annual evaluation using these metrics and provide that report to the House and Senate Small Business Committees and House Committee on Science, Space and Technology, as well as the SBA Administrator.

This statutory requirement was raised during the IPC report on the evaluation framework for the SBIR/STTR Programs and that report was issued by SBA in September 2014 (https://www.sbir.gov/sites/default/files/5_standard_evaluation_framework-ipc_report.pdf). The evaluation framework agreed upon in that report was for increased data collection by SBA in its annual report to be supplemented by the National Academies studies.

The Air Force and Navy conducted Economic Impact Studies, in 2014 and 2016 respectively, that examined the programs over a 13-year period. Though expensive to conduct, these reports provided SBIR results as measured by total economic impact, labor income, new jobs, average salary, companies acquired, technologies licensed, and spin-outs as the primary metrics. Other agencies have not had the resources to carry out similar efforts.

SBA followed up and verified with the Particpating Agencies that none have submitted reports to Congress to address the reporting requirement found at 15 U.S.C. § (nn)(2).

DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS)

The HHS SBIR/STTR Programs are administered exclusively by the National Institutes of Health (NIH) to invest in early-stage biomedical, health, and life science companies creating a wide range of innovative technologies aligning with NIH's mission to improve health and save lives. A key objective of this work is translating promising technologies with strong potential for commercialization to the private sector through strategic public and private partnerships, so that life-saving innovations reach consumer markets. Key highlights for FY14 include:

- Awarding over 1,350 new SBIR/STTR Phase I, Phase II, Phase IIB, and Fast Track applications to US small businesses
- Implementing key features of the Reauthorization Act, including the Phase Flexibility provision (Direct Phase II) to allow small businesses to apply directly for SBIR Phase II, if they have completed the feasibility or proof of concept with other funds.
- Expanding the venture capital provision to also include CDC SBIR applicant. Now NIH and CDC applicants can apply as majority VC-owned small businesses to SBIR.
- Implementing SBIR/STTR switching mechanism to allow Phase I SBIR to apply for Phase II STTR and vice versa.
- Beginning development of the HHS Commercialization Readiness Pilot Program (CRPP)
- Developing Phase 0 Proof of Concept Partnership Program to launch in FY15.

NIH SBIR/STTR Technical Assistance Programs

NIH has two technical assistance programs to help small businesses transition their technology to the marketplace. The Niche Assessment Program (Niche) provides a detailed market analysis for Phase I Awardees. The Commercialization Assistance Program (CAP), a 9-month customized training program, helps small businesses that have received a Phase II or Phase IIB Award accomplish key commercial goals. Each program services a wide-range of companies in different industry sectors.

Key NIH SBIR/STTR Outreach Statistics

NIH's SBIR/STTR outreach activities during FY14 were directed at identifying new SBIR/STTR applicants, with a special emphasis on Women-Owned Small Businesses (WOSB), socially and economically disadvantaged businesses (SDB) and businesses located in Institutional Development Award (IDeA) states. Overall outreach metrics for FY14 include:

- Expanded collaboration with the IDeA Program to reach states that have historically received lower levels of NIH funding. Attended National IDeA conference in DC
- Expanded @NIHsbir twitter account and developed YouTube webinar content
- Participated in 83 events (webinars and in-person) hosted in 24 states (including all 23 IDeA states and Puerto Rico) reaching over 7,000 attendees
- Held the 15th Annual NIH SBIR/STTR conference in Sioux Falls, SD, an IDeA state, that reached 366 attendees
- Began planning the 16th Annual NIH SBIR/STTR conference in New Mexico, an IDeA state
- Reached 360 WOSB and 223 SDB through 30 events

[6] The FY14 Agency Summaries were prepared and submitted by Particpating Agencies to highlight individual program initiatives and achievements. Agency Summaries were not required as part of the Annual Reporting process.

DEPARTMENT OF ENERGY (DOE)

In September 2014, DOE launched the first federal Phase 0 Outreach and Assistance Program to help eligible small businesses in navigating the DOE SBIR/STTR application process. With a full menu of services available to pre-approved applicants, small businesses that fall into three categories: 1) located in underrepresented states; 2) women-owned; and 3) minority-owned, can now get Phase I grant application assistance to submit a well-articulated DOE Phase I SBIR/STTR proposal.

These DOE SBIR/STTR Phase 0 services are free of charge to eligible small businesses and become available twice a year when DOE releases its Phase I SBIR/STTR Funding Opportunity Announcements. Eligible applicants may receive one or more of the following specialized services after an initial assessment by the contractor administering the Phase 0 Program for DOE:

- Letter of Intent (LOI) writing assistance
- Phase I proposal preparation, review, and submission assistance
- Market Research Assistance
- Small Business Development Training and Mentoring
- Technology Advice and Consultation
- Intellectual Property Consultation
- Indirect Rates and Financials
- Travel Assistance

DOE Sequential Phase II Awards: In FY14, DOE implemented sequential Phase II awards. DOE implemented two types of Phase II awards. Phase IIA: For projects requiring more time and funding than available with a single Phase II award to complete prototype or process development. Phase IIB: For successful Phase II projects requiring additional R/R&D funding to transition an innovation towards commercialization. In the first year of implementation, 3 Phase IIA awards and 21 Phase II awards were made, comprising 17% of the Phase II awards made by DOE. We look forward to evaluating the commercialization impact of the additional flexibility provided to the agencies to further advance SBIR/STTR innovations.

DOE 2014 SBIR/STTR Small Business of the Year:

Mainstream Engineering, Corp. | Rockledge, FL

Under a DOE SBIR Phase II award, Mainstream Engineering developed a practical, cost-effective method to reduce the energy consumption of residential, commercial, and industrial air conditioning and refrigeration systems. From that effort, Mainstream has commercialized and now sells a simple, easy-to-install system for reducing the energy consumption and improving the life of existing and new air conditioning and heat pump systems. The DOE's SBIR investment has resulted in a Mainstream product known as the QwikSEER+ WattSaver®.

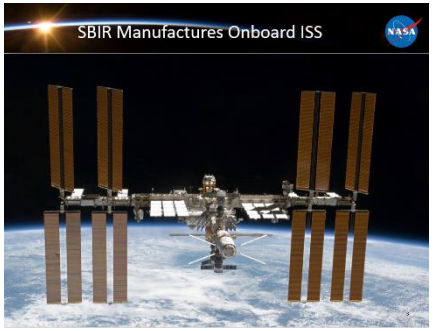
The NASA SBIR and STTR Programs fund the research, development, and demonstration of innovative technologies that fulfill NASA needs as described in the annual solicitation and have significant potential for successful commercialization. Commercialization encompasses the transition of technology into products and services for NASA mission programs, other Government agencies, and non-Government markets.

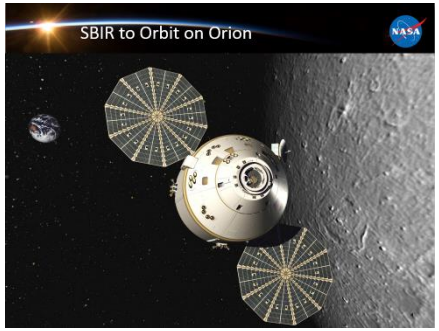
NASA research and technology areas solicited in 2014 are aligned with the agency's Mission Directorates. The Directorates identify high priority research and technology needs for their respective programs and projects. The needs are explicitly described in the topic and subtopic descriptions developed by technical experts at NASA's Centers.

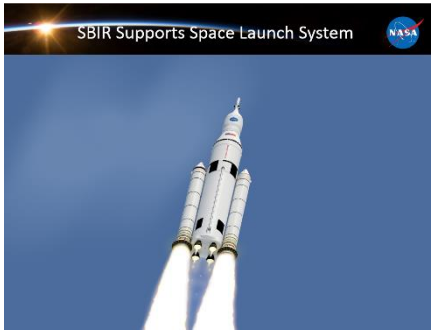
Key highlights in FY14 include:

- **Commercialization Readiness Pilot Program (CRPP):** Initiated in FY14, the objective of the CRP is an infusion into a NASA application or a commercialization to industry, not an incremental improvement in technology readiness level alone. The CRP is intended to provide the bridge to infusion and commercialization for technologies which could not accomplish this within other funding opportunities. The NASA CRP operates as a matching funding arrangement, with a 1:1 ratio target (SBIR/STTR to non-SBIR/STTR funds). A total of 9 CRP efforts were funded in this pilot year, out of 17 applications.
- **Commercialization Technical Assistance (CTA):** Starting with the 2014 Program Solicitation, the recipients of an SBIR/STTR award may purchase up to $5,000 in technical assistance services through an outside vendor for the purpose of assisting in: (1) Making better technical decisions concerning such projects; (2) Solving technical problems which arise during the conduct of such projects; (3) Minimizing technical risks associated with such projects; (4) Developing and commercializing new commercial products and processes resulting from such projects. Approval of technical assistance is not guaranteed and is subject to review by the contracting officer.
- **Post Award Success Module (PAS):** This module released in 2014 is used internally by the NASA SBIR/STTR Program for entering, tracking, and validating post award successes. To the best of their ability, the Technology Infusion Managers (TIMs) are responsible for ensuring the completeness and accuracy of the post-award records for their Center. The Commercial Metrics Survey data submitted by firms is also a main source of information that feeds into the PAS module.
- **CMS Data Export to the SBA:** An XML Tool was developed to export Commercialization Metrics Survey Data to the SBA.

Success Stories







The NSF SBIR/STTR Programs seek to transform scientific discovery into societal and economic benefit by catalyzing private sector commercialization of technological innovations. The program increases the incentive and opportunity for startups and small businesses to undertake cutting-edge, high-quality scientific R&D to meet NSF's needs.

FY14 Highlights

- Commercialization Impact – Scaled the Beat-the-Odds Bootcamp at the Phase I Grantees Conference, which compacts and adapts I-Corps™ methodology and curriculum for commercialization/customer discovery training relevant for Phase I grantees. Over 250 Phase I awardee companies were taken through this program.
- New Funding Opportunity – Launched the Commercialization Assistance Program supplement for Phase II grantees to assist with their commercial efforts.
- Changing Grantee Demographics – In FY14, most Phase I SBIR/STTR awards were to companies with fewer than 10 employees (90%), which were formed in the past five years (72%), and which had no prior Phase II awards from any agency (80%).
- Geographic Impact – Small businesses in 45 U.S. states and territories were given new SBIR/STTR awards in FY14.

FY14 Success Stories

- Acquisition Highlight – Echo Nest (NSF Phase II Award in 2008, when the company had six employees) was acquired by Spotify for $100 million. Other grantee acquisitions in FY14 included LuxVue, Pipe Wrap, Interfacial Solutions, Xradia, and Redwood Bioscience.
- Four grantee companies awarded R&D100 awards in 2014: Applied Nanostructures, APEI, Excellims Corporation, Filter Sensing Technologies. Four other grantee companies collaborated on other R&D100 awarded work.
- Tibbetts Awards - Actuated Medical, Inc. (2 NSF Phase II Awards), Adventium Labs (2 NSF Phase I Awards), NanoMech (1 NSF Phase II award, 2004), Novan, Inc. (1 NSF Phase II award, 2012), Tactus Technologies (1 NSF Phase II award, 2006).

FY14 Outreach

- Chemical Engineering Progress partnership – Established a partnership with the American Institute of Chemical Engineering to feature NSF SBIR/STTR grantee stories in their monthly trade publication, Chemical Engineering Progress.
- Trade Show Outreach – Helped to grow NSF-founded Eureka Park at the Consumer Electronics Showcase to over 200 start-ups and entrepreneurs. Also, participated, presented, and sponsored grantee attendance (to cumulative total of over 50 companies) at over two dozen tradeshows and events including the Angel Capital Association, BIO International Convention, International Society for Technology in Education, American Institute for Chemical Engineering Annual Meeting, SEMICON West, and Florida Educational Technology Conference.

National Science Foundation
WHERE DISCOVERIES BEGIN

- Digital Outreach – Grew the program's Twitter and LinkedIn presence to help drive increased interest from underrepresented groups. Refined and expanded pre-deadline webinar and Q&A webinar processes. Created and uploaded a dozen new informational and "success story" videos to the program website. Conducted dozens of one-off webinars for various state organizations, accelerators, and universities.

The USDA SBIR Program is administered exclusively by the National Institute of Food and Agriculture (NIFA), which offers competitively-awarded grants to qualified small businesses to support high quality, advanced concepts research related to important scientific problems and opportunities in agriculture that could lead to significant public benefits.

FY14 USDA SBIR Phase II Companies in the News

- Eureka Genomics acquired by Affymetrix, Inc. for $15 million in an all cash transaction. Affymetrix, Inc. is a publicly traded California-based company that manufactures DNA microarrays. Affymetrix will immediately launch the Eureka Genomics' technologies as Eureka Genotyping Solution and Services for use in a wide range of routine animal and plant testing applications. Read more here.
- Altaeros Energies named among top 10 inventions by CNN. Read more here.
- Sarah Bellos of Stony Creek Colors and Amelia Swan Baxter of Whole Trees Architecture where featured in Forbes Woman. The article titled "Women and Nature: A Powerful Combination for the Planet and Business Growth" describes how both USDA SBIR companies are shaking up the sleepy agriculture industry with products that use sustainably grown plants and trees to replace highly polluting materials.
- Micronic Technologies was profiled in Virginia Business after presenting at the 2015 Ag Innovation Showcase. Read more here.
- Green Heron Tools was featured in the Modern Farmer magazine showcasing their new "Tools for Her". Read more here.
- KickinNutrition.TV Launches its Digital Health-Nutrition Curriculum for Schools in the Sunshine State of Florida! KickinNutrition.TV's online health-nutrition education curriculum is being used by 14,000 sixth grade students and teachers in Pinellas County, Title 1 schools. Read more here.

FY14 Commercialization Activities

- Developing a pilot program with the NSF Innovation Corps (I-Corps™) program called Innovations in Food and Agricultural Science and Technology (I-FAST). The program required the development of a MOU with NSF to select four projects for participation in the I-Corps Program. Each I-Corps team will receive a $50,000 award to develop a commercialization roadmap that will lead to further development of the technology and eventual commercialization.
- Engage an outside contractor to develop a Phase III survey to contact, evaluate and analyze past USDA Phase II recipients from 1995 to the present with the aim of determining the level of commercial success that has been accomplished. In FY14 a scope of work was developed to have a contractor develop the survey which would then be forwarded to OMB for approval.
- A new collaboration, SBIR-Technology Transfer Program, between the NIFA and USDA's Agricultural Research Service (ARS), was established that encourages SBIR applicants to license ARS technologies and be considered for a SBIR grant. The relevant language in the SBIR Request for Application states: "Additional factors that will be considered in the review process include whether an application involves a cooperative research and development agreement (CRADA) with a USDA laboratory, or a license to a USDA technology, or is a resubmission. In the event that two or more applications are of approximately equal merit, the existence of a CRADA with a USDA laboratory or a license to a USDA technology will be an important consideration.

DEPARTMENT OF EDUCATION (ED)

ED's SBIR Program, operated by the Institute of Education Sciences (IES), provides funding to small businesses and partners to translate their innovative R&D ideas into commercially viable products to address educational challenges and improve relevant outcomes for teachers, students, and administrators, in education and special education. The funds enable firms to develop prototypes, conduct iterative R&D to inform refinements, access full-scale development, and perform pilot research in schools to determine feasibility and promise. After a project ends, firms commercialize or disseminate the products to schools, teachers, and students, producing solid results and gaining media and key stakeholder recognition of ED SBIR as an innovation driver in the ed-tech ecosystem.

Key FY14 Achievements

- ***Visible Impact*** – approximately 2 million students in 20,000 schools in all 50 states used products funded by ED SBIR in 2013-2014.
- ***Visibility for all SBIR*** – ED SBIR published one of the most-viewed blogs of 2014 on the 1776 website called "*A Government Program Every American Start Up Should Know About.*"
- ***Organized Major Events*** – ED SBIR led ED Games Week. In 2013-2015, ED SBIR (in collaboration with the White House Office of Science and Technology Policy (OSTP)) has hosted major events to showcase its products and connect companies to major industry stakeholders
- ***Social Media*** – produced a YouTube video playlist and blog on SBA.gov on SBIR Games for Learning across 10 different SBIR Programs.
- ***Dissemination*** – regularly update website with rich content: http://ies.ed.gov/sbir, videos http://ies.ed.gov/sbir/videos.asp, and success stories http://ies.ed.gov/sbir/successstories.asp
- ***Substantive Technical Assistance*** – to over 200 potential applicants during pre-solicitations and to all awardees during and after projects
- ***Collaboration*** – ED SBIR works closely with OSTP, SBA, Administration for Children and Families, NSF, and NIH; ED SBIR is a key member of several inter-agency working groups; ED SBIR invited Individuals from NSF, NASA, NIH, CDC, and DOD to review ED SBIR proposals
- ***Significant outreach*** – to top tier developers and key stakeholders in the ed-tech ecosystem
- ***Feature Story*** – The leading education newspaper, Education Week, published a feature on ED SBIR
- ***Briefings*** – provided to leadership teams at ED, OSTP, SBA, and other agencies
- ***Recognition*** – as an "innovation driver" in national publications such as *Education Week*, *Edsurge*, *Wall Street Journal*, and *TechCrunch* (See all articles at http://ies.ed.gov/sbir/news.asp)
- ***Acquisition*** – Two ED SBIR firms were acquired in 2014 to enable major distribution and scale; Socrative and Lightside Labs
- ***Industry Awards*** – ED SBIR products won prestigious national industry competitions, including Teachley, winner of an Apple Design Award; Zaption, winner of a DILA, Attainment Company, winner of a DILA, Filament Games, winner of Best in Show at the GLS conference

Examples of ED/IES SBIR-funded Products used by 100,000+ Students

- Filament Games' *Reach for the Sun* – middle school students "do photosynthesis" in a game by growing a sunflower from seed to full plant
- *Sokikom* – grade school students "chop blocks" in a machine to practice fractions
- Mindset Works – students learn a growth mindset to strengthen the learning process
- Teachley – a suite of mathematics apps for grade school students
- FluidMath – enables teachers to show math problems in different representations
- Handhold Adaptive's *iPrompts* – supports students with autism in daily tasks

DEPARTMENT OF TRANSPORTATION (DOT)

DOT's SBIR Program, managed for over 30 years by Volpe, the National Transportation Systems Center, seeks to contract with small businesses to pursue R&D on innovative solutions to our nation's transportation challenges across all modes. DOT seeks SBIR applicants who can help the agency anticipate and address emerging issues by advancing technical, operational, and institutional innovations through specific R&D topics of interest to DOT operating administrations:

- Federal Aviation Administration
- Federal Highway Administration
- Federal Motor Carrier Safety Administration
- Federal Railroad Administration
- Federal Transit Administration
- National Highway Traffic Safety Administration
- Pipeline and Hazardous Materials Safety Administration
- Office of the Assistant Secretary for Research and Technology.

FY14 Operational Improvements – The DOT SBIR website was re-designed to be more user-friendly and the *GovDelivery* system was put in place, whereby stakeholders can subscribe to receive email notifications of news and updates. Another success was the development of new cost and pricing tools for proposals. New spreadsheets were developed to help small businesses understand DOT's cost requirements, provided in a format that auto-calculates necessary information. These improvements have helped small businesses better navigate DOT's SBIR process.

Success Stories – Read about DOT's SBIR success stories to learn more about how U.S. DOT's SBIR Program has supported small businesses in developing new and innovative technologies that have benefitted the DOT and the public. Highlights include:

Teaching Pilots to Trust Their Instruments – Spatial disorientation is a factor in roughly 10 percent of loss-of-control events, which are the leading cause of fatal accidents in commercial aircraft. Previously, exposing pilots to the feeling of spatial disorientation in standard flight simulator training has had limited effectiveness, especially for fatal scenarios. To address this, the Federal Aviation Administration (FAA) provided Systems Technology Inc. (STI) to develop technology that could be used with current simulation equipment to train pilots to recognize and react to spatial disorientation events in flight. The work began as a Phase I proof-of-concept in 2012 followed by a Phase II award in 2014, which funded the development of a working prototype. STI developed technology that could be used with existing simulation equipment to train pilots to recognize and react to spatial disorientation in flight. With STI's work now crossing over to U.S. DOT, pilots will soon have more training opportunities ahead of them, leading to safer skies for everyone.

SBIR-Funded Sensors Detect Pipeline Stresses Early, Mitigating Future Problems – In 2011, Houston-based Generation 2 Materials Technology, LLC (G2MT) produced an industry first with the release of its SBIR-funded non-destructive pipeline stress analysis sensor. These sensors can determine the through-thickness residual stresses of materials that are built to withstand pressure, revealing pipeline stressors before they are visible and before they cause damage. G2MT was later chosen for an SBIR Phase II award of $1 million, which was completed in 2014, granting the production of a sensor that was ready for both field deployment and commercialization. The sensors now have a role in the nuclear, aviation, and maritime industries, as well as in gauging the structural integrity of transportation infrastructure, such as bridges.

EPA's SBIR Program is the small program with the big mission – to develop and commercialize technologies that protect human health and the environment. EPA works to keep its annual solicitation responsive and relevant. Interaction and communication within the agency is key to identifying the most important and current environmental needs such as drinking water, air quality, manufacturing, green building, and homeland security.

Key FY14 Achievements

- *Commercialization* - EPA works hard to help its small businesses commercialize their technologies. The selection criteria were updated to place an increased emphasis on commercialization, including business expertise, partnerships and record of accomplishment and peer reviewers with commercialization experience now make up a significant portion of the peer review panel. EPA also provides commercialization assistance through a contractor to all its Phase I and Phase II companies as well as a commercialization option (like a Phase II B) where Phase II companies can receive a funding supplement of up to $100,000 from EPA for securing 3rd party investment

- *Communications* - EPA helps to get the word out about the success of its small businesses by regularly communicating successes through its website and social media
- *Outreach* - EPA continues to do outreach in person and virtually at national, state and local conferences
- *Collaborations* - In FY14, EPA continued to collaborate with other agencies that support environmental technologies including NSF, NIEHS, USDA, DOE, and NOAA. This includes informing technology developers of other opportunities, staying up on similar topics and interacting with agency Program Managers on events of mutual interest. This effort contributed to a significant pool of funding available to green technology developers across the federal programs

Success Stories

NanoMech *(Fayetteville, AR)* EPA SBIR Award recipient in 2004 and 2005 – won the 2014 Tibbetts award for its novel coating technology for environmentally friendly cutting tool manufacture. They also received R&D Magazine's R&D 100 Award for their TuffTek® technology.

GVD *(Cambridge, MA)* EPA SBIR Award recipient in 2013 – developed a novel and environmentally friendly polymer coating technology for consumer, industrial and medical products providing a solution to the issue of toxic, polluting and low-performance mold release agents. Millions of tires produced using GVD coatings are on the road.

TIBBETTS AWARDS AND SBIR HALL OF FAME

The annual Tibbetts Awards, named for SBIR Program pioneer Roland Tibbetts, are presented to models of excellence for developing and commercializing new technologies through participation in the SBIR/STTR Programs. Small businesses having received SBIR or STTR award assistance are eligible for the Tibbetts Awards, and winners are selected based upon the merit of their SBIR/STTR-funded work, the economic and societal impacts of their technological innovations, and the successful commercialization of developed technologies. Similarly, individuals selected for Tibbetts Awards are selected based upon the merit of their roles in SBIR/STTR-funded R/R&D without having received any SBIR or STTR Award assistance.

The SBIR Hall of Fame recognizes companies with extraordinary successes in research, innovation, and commercialization within the SBIR/STTR Program. Eligible nominees must have previously won an SBIR/STTR award and shown continued and significant contributions to the goals of the SBIR/STTR Programs by evincing success beyond participating in the SBIR/STTR Program through ingenuity, resolve, and longevity.

The 2014 Tibbetts and SBIR Hall of Fame Awards were presented by the SBA during a White House ceremony on June 16, 2014, and honored 25 high-tech small businesses and two individuals with Tibbetts Awards for their outstanding roles in federal R/R&D, innovation, and job creation. In addition, the SBA named two former SBIR participants to the SBIR Hall of Fame for their extraordinary successes in research, innovation, and product commercialization throughout the 30-year history of the SBIR Program.

SBIR Hall of Fame

Intuitive Surgical, Inc.
Sunnyvale, CA

Ultra-Scan Corporation
Buffalo, NY

Tibbetts Individuals

Richard A. Bendis
Rockville, MD

John Pucci
Aberdeen, MD

Tibbetts Small Businesses

Actuated Medical, Inc.
Bellefonte, PA

Adventium Enterprises, LLC dba Adventium Labs
Minneapolis, MN

ChemImage Sensor Systems (CISS)
Pittsburgh, PA

Corvid Technologies
Mooresville, NC

Eldertide LLC
Dresden, ME

Exquadrum, Inc.
Adelanto, CA
Geocent, LLC
New Orleans, LA

HemoShear, LLC
Charlottesville, VA

Inrad Optics
Northvale, NJ

IRIS Media, Inc., dba IRIS Educational Media
Eugene, OR

Mainstream Engineering
Rockledge, FL

NanoMech, Inc.
Springdale, AR

Novan, Inc.
Durham, NC

Pacific Biosciences of California, Inc. (dba as Pacific Biosciences)
Menlo Park, CA

Pacific Engineering, Inc.
Roca, NE

Parion Sciences
Durham, NC

QorTek, Inc.
Williamsport, PA

Realtime Technologies, Inc.
Royal Oak, MI

Robotic Research, LLC
Gaithersburg, MD

Sentient Corporation
Buffalo, NY

STAR Cryoelectronics, LLC
Santa Fe, NM

Structural Composites, Inc.
West Melbourne, FL

Tactus Technologies
Akron, NY

FEDERAL AND STATE TECHNOLOGY (FAST) PARTNERSHIP PROGRAM

Federal and State Technology Partnership (FAST) Program is a competitive grants program administered by the SBA and designed to strengthen the technological competitiveness of small businesses. FAST improves the participation of small technology firms in the innovation and commercialization of new technology, thereby helping keep the United States on the forefront of R&D in science and technology. All 50 states, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and the American Samoa may receive funding for an array of services (e.g., outreach and technical assistance) in support of the SBIR/STTR Programs.

FAST is an important catalyst for stimulating economic development among small, high technology businesses through federally-funded innovation and R&D programs, with an emphasis on helping socially and economically disadvantaged firms compete in the SBIR/STTR Programs. FAST Program participants support areas such as: small business R&D assistance; technology transfer from universities to small businesses; technological diffusion of innovation benefiting small businesses; proposal development and mentoring for small businesses applying for SBIR/STTR grants; and, commercializing technology developed through SBIR/STTR grants.

The following 2014 FAST awardees were announced by the SBA on June 26, 2014:

- *Economic Development Partnership of Alabama Foundation, Inc.*
- *University of Alaska Anchorage*
- *Commerce Authority, Arizona*
- *Board of Trustees of the University of Arkansas*
- *The Regents of the University of California*
- *Connecticut Innovations Incorporated*
- *DC Department of Small and Local Business Development*
- *Boise State University*
- *Board of Trustees of the University of Illinois*
- *Wichita State University*
- *Louisiana State University and A&M College*
- *Metropolitan Economic Development Association, Minnesota*
- *Innovate Mississippi*
- *Board of Regents, Univ. of NE dba Univ. of NE at Omaha*
- *The Research Foundation for the State University of New York*
- *University of North Dakota*
- *Oregon Built Environment & Sustainable Technologies Center*
- *Puerto Rico Trade and Export Company (PR Trade)*
- *Tennessee Technology Development Corp d/b/a Launch Tennessee Center for Innovative Technology*
- *Center for Innovative Technology, Virginia*
- *Board of Regents of the University of Wisconsin System*
- *University of Wyoming*

In FY14, the SBA awarded 22 FAST grants over $90,000 each to state and local economic development agencies, business development centers, and colleges and universities to support innovative, technology-driven small businesses. The SBA's Office of Technology, within OII, issued the FY14 FAST Program Announcement on March 1, 2014. FAST candidates were submitted by the governors of the 50 U.S. states and territories, as FAST grants require varying levels of matching funds depending upon the sponsoring state or territory. A panel of senior SBIR Program managers evaluated all eligible proposals and then made recommendations to SBA, DOD, and NSF officials. Based on the merit of each proposal, the joint review by the agencies led to the selection of the awardees, with project and budget periods for 12 months, beginning October 1, 2014.

Although overseen by the Small Business Administration, the SBIR and STTR Programs are affiliated with government agencies involving R/R&D with an extramural budget of $100 million or more. SBIR and STTR Programs now have $2.2 billion set aside annually to support the financing of cutting-edge technologies developed by small businesses. For the U.S. government to recognize the necessity of federal engagement in R/R&D of high risk technology development and to coordinate such a network would not have been possible without the support of key framers, politicians, and legislators. The 'Father' of the SBIR Program, Roland Tibbetts (pictured right), experienced firsthand how government programs affect individuals after President Roosevelt signed the GI Bill into law in 1944. Previously, a distinguished First Lieutenant in the U.S. Army Air Corps during World War II, Tibbetts could complete his undergraduate degree at Boston University and then his MBA at Harvard due to benefits from the GI Bill. After garnering close to 20 years of corporate experience, including serving as the VP of two small, high-tech firms, Tibbetts was appointed as the Senior Program Officer at NSF in 1972. As an NSF Program Manager, Tibbetts was known as a taskmaster with well-honed instincts for enabling potentially game-changing projects. He also recognized the importance of small, high-tech firms to the economy and observed the fierce opposition they faced from other recipients when pursuing federal R/R&D funding.

The late Senator Edward H. Kennedy (pictured on the left) also recognized the vital role that small businesses play in America's growing economy. He spent much of the 1970s tirelessly championing for NSF to support the research of qualified small businesses as the chairman of the National Science Foundation Subcommittee of the Senate Labor and Public Welfare Committee. Kennedy continued to introduce different proposals to increase the percentage of the budget directed toward small businesses. Once NSF recognized the need for ongoing support for small business, the foundation instituted the SBIR Program in 1977.

In addition to Senator Kennedy, much of the legislative support for the SBIR Program was directly due to the work of Arthur and Judith Obermayer (also pictured on the left). As early as 1970, Arthur testified before the U.S. Congress on the challenges small R/R&D companies faced in dealing with the government. He also lobbied alongside Kennedy for the initial 1974 NSF Authorization Act, which was actualized in the first NSF SBIR Program, designed by Roland Tibbetts. Tibbetts envisioned a 3-phase structure to foster the R/R&D of small, high-tech businesses and push them to realize their commercial potential. He believed these firms were instrumental in converting government R/R&D into public benefit through technological innovation and commercial applications, therefore stimulating aggregate economic growth. Of the 42 Phase I Awards and 21 Phase II Awards selected in 1977, one firm went on to discover the cystic fibrosis gene and complete the Human Genome Map, a small language-understanding firm (then MicroComputer) became Symantec, and a high-risk firm (then Relation Technology Inc.) became the data giant Ingres Corporation. It seems that Arthur Obermayer was on to something when he advised the Congressional committee in 1978 the NSF SBIR Program was "potentially…the most significant government program of this century in the field of science and technology."

Due to the success of the NSF SBIR Program, in 1979 the Small Business Administration concluded SBIR Programs should be instilled at all government agencies involving research to encourage innovation and technology in the United States. Senator Kennedy, an avid supporter of small businesses, spearheaded legislation to institute a government-wide SBIR Program. He and other legislators, including Judith and Arthur Obermayer, called for every federal agency with a budget over $100 million to establish a program modeled after Tibbetts' NSF SBIR Program. The Obermayers convinced a majority of delegates at the 1980 White House Conference on Small Business to support SBIR. After overcoming resistance from the academic community, President Reagan signed a government-wide SBIR Program into law in 1982 (pictured on the right). To date, the program has resulted in 70,000 issued patents, close to 700 public companies, and approximately $41 billion in venture capital investments.

LEGISLATIVE AUTHORITY

The SBIR Program was created by enactment of Public Law 97-219, the Small Business Innovation Development Act of 1982. The program was reauthorized with the enactment of the Small Business R&D Enhancement Act of 1992, Public Law 102-564. Title I of the Act expanded and reauthorized the SBIR Program. Title II of the Act created the STTR Program.

In September 1996, Public Law 104-208 reauthorized the STTR Program through FY 1997. In December 1997, Public Law 105-135 reauthorized the program through September 30, 2006. In 2000 the SBIR Program was re-authorized until September 2009 by the Small Business Innovation Research Program Reauthorization Act of 2000. In October 2001, Public Law 107-50 reauthorized the STTR Program through FY 2009 and increased the program set-aside from 0.15 percent to 0.30 percent which began in FY 2004.

From 2009 to 2011, the SBIR and STTR Programs were authorized by a series of Continuing Resolutions issued by Congress. In December 2011, the Programs were reauthorized until FY 2017 by the 2012 Defense Authorization Act, Public Law 112-81. The Act also increased the minimum set-aside amounts for both Programs:

- SBIR: Particpating Agencies with extramural R/R&D budgets exceeding $100 million were required to set aside 2.6% of their FY 2012 extramural R/R&D budget for SBIR Awards to small businesses (an increase of 0.1% over FY 2011). The minimum percentage was then set to increase in increments of 0.1% each year until FY 2016 when it reaches 3.0%. For FY 2017 and each FY thereafter, the minimum percentage will remain at 3.2%, unless subsequently modified by statute.
- STTR: Particpating Agencies with extramural R/R&D budgets exceeding $1 billion were required to set aside 0.35% of their FY 2012 and FY13 extramural R/R&D budget for STTR Awards to small businesses (an increase of 0.05% over FY 2011). The minimum percentage was then set to increase to 0.40% for FYs 2014 and 2015, and again to 0.45% for FY 2016 and each FY thereafter, unless subsequently modified by statute.

The National Defense Authorization Act 2017 extended both programs to September 30, 2022.