# **Small Business Innovation Research**

The **Small Business Innovation Research** (or **SBIR**) program is a <u>United States Government</u> program, coordinated by the <u>Small Business Administration</u>, intended to help certain <u>small businesses</u> conduct research and development (R&D). Funding takes the form of contracts or grants. The recipient projects must have the potential for commercialization and must meet specific U.S. government R&D needs.

The SBIR program was created to support scientific excellence and technological innovation through the investment of federal research funds in critical American priorities to build a strong national economy ... one business at a time.<sup>[1]</sup> In the words of program founder <u>Roland Tibbetts</u>: "to provide funding for some of the best early-stage innovation ideas -- ideas that, however promising, are still too high risk for private investors, including venture capital firms."<sup>[2]</sup> For the purposes of the SBIR program, the term "small business" is defined as a for-profit business with fewer than 500 employees, owned by one or more *individuals* who are citizens of, or permanent resident aliens in, the United States of America.

Funds are obtained by allocating a certain percentage of the total extramural (R&D) budgets of the 11 federal agencies with extramural research budgets in excess of \$100 million. Approximately \$2.5 billion is awarded through this program each year. The <u>United States Department of Defense</u> (DoD) is the largest agency in this program with approximately \$1 billion in SBIR grants annually. Over half the awards from the DoD are to firms with fewer than 25 people and a third to firms of fewer than 10. A fifth are minority or women-owned businesses. Historically a quarter of the companies receiving grants are receiving them for the first-time. <sup>[3]</sup> Besides the DoD, there are also programs with the <u>National Institutes</u> of Health, the <u>National Science Foundation</u>, the <u>Department of Agriculture</u>, and others.

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#### **Structure**

The SBIR program agencies award monetary contracts and/or <u>grants</u> in phases I and II of a three-phase program:<sup>[4]</sup>

- Phase I, the startup phase, makes awards of "up to \$150,000 for approximately 6 months support [for] exploration of the technical merit or feasibility of an idea or technology."
- Phase II awards grants of "up to \$1 million, for as many as 2 years," in order to facilitate expansion of Phase I results. Research and development work is performed and the

developer evaluates the potential for commercialization. Up to 2014 Phase II grants were awarded exclusively to Phase I award winners but in 2014 the DOD, NIH and Education are allowed to make "direct to Phase II" awards; NIH and DARPA (part of DOD) had active solicitations for this in the Summer of 2014.

Phase III is intended to be the time when innovation moves from the laboratory into the marketplace. No additional SBIR set-aside funds may be awarded for Phase III. "The small business must find funding in the private sector or other non-SBIR federal agency funding."

The company owns the intellectual property and all commercialization rights. Companies such as <u>Symantec</u>, <u>Qualcomm</u>, <u>Da Vinci Surgical System</u>, <u>Jawbone</u>, <u>Lift Labs</u>, <u>Natel Energy</u> and <u>iRobot</u> received early-stage funding from this program.

### **Participating agencies**

Each Federal agency with an extramural budget for R&D in excess of \$100,000,000 must participate in the SBIR Program and reserve at least 3.2% of such budget in fiscal year 2017 and each fiscal year after. A Federal agency may exceed these minimum percentages.<sup>[5]</sup> In 2010, the SBIR program across 11 federal agencies provided over \$2 Billion in grants and contracts to small U.S. businesses for research in innovation leading to commercialization.

As of February 2018, SBIR programs are in place at the following agencies:<sup>[4]</sup>

- Department of Agriculture (National Institute of Food and Agriculture)<sup>[6]</sup>
- Department of Commerce
  - National Institute of Standards and Technology<sup>[7]</sup>
  - National Oceanic and Atmospheric Administration<sup>[8]</sup>
- Department of Defense (divided into 13 components)<sup>[9][10]</sup>
  - Department of the Army
  - Department of the Navy
  - Department of the Air Force
  - Chemical and Biological Defense
  - Defense Advanced Research Projects Agency
  - Defense Health Agency
  - Defense Logistics Agency
  - Defense Microelectronics Activity
  - Defense Threat Reduction Agency
  - Missile Defense Agency
  - National Geospatial-Intelligence Agency
  - Office of the Secretary of Defense
  - Special Operations Command
- Department of Education (Institute of Education Sciences)<sup>[11]</sup>
- Department of Energy<sup>[12]</sup>
- Department of Health and Human Services (National Institutes of Health, Centers for Disease Control and Prevention, Food and Drug Administration)<sup>[13]</sup>
- Department of Homeland Security (Science and Technology Directorate, Domestic Nuclear Detection Office)<sup>[14]</sup>
- Department of Transportation<sup>[15]</sup>

- Environmental Protection Agency<sup>[16]</sup>
- National Aeronautics and Space Administration<sup>[17]</sup>
- National Science Foundation<sup>[18]</sup>

### **Related programs**

A similar program, the Small Business Technology Transfer Program (STTR), uses a similar approach to the SBIR program to expand public/private sector partnerships between small businesses and nonprofit U.S. research institutions. The main difference between the SBIR and STTR programs is that the STTR program requires the company to have a partnering research institution which must be awarded a minimum of 30% of the total grant funds.<sup>[19]</sup> As of 2014 federal agencies with external R&D budgets over \$1 billion were required to fund STTR programs using an annual set-aside of 0.40%.<sup>[20]</sup>

The <u>Small Business Technology Council</u>, a member council of the <u>National Small Business Association</u>, hands out the <u>Tibbetts Award</u> annually "to small firms, projects, organizations and individuals judged to exemplify the very best in SBIR achievement."<sup>[21]</sup>

Federal and State (FAST) is a program of State-based business mentoring and assistance to aid small businesses in the preparation of SBIR proposals and management of the contracts.<sup>[1]</sup> It is more active in some states than others.

## History

The program was established with the enactment into law of the Small Business Innovation Development Act in 1982 to award federal research grants to small businesses. The SBIR program has four original objectives:<sup>[22]</sup> to stimulate technological innovation; to use small business to meet Federal research and development needs; to foster and encourage participation by minority and disadvantaged persons in technological innovation; and to increase private sector commercialization innovations derived from Federal research and development.

The program must be periodically reauthorized by the <u>United States Congress</u>, but reauthorization is generally included in each new budget. The program was re-authorized through FY2017 by the 2012 Defense Authorization Act (P.L.112-81).<sup>[20][23]</sup>

Rep. <u>Mazie K. Hirono</u> (D-HI) has proposed the SBIR Enhancement Act of 2011 as HR 447 of the <u>112th</u> <u>Congress</u>, which increases the funding for SBIR by increasing the funding tax from the original 2.5% up to 5%, raises the Phase 1 amount to \$200,000 and provides for economic adjustments every five years. [24]

Historical minimum percentages of their "extramural" R&D budgets for awards to small business concerns are:

- 2.5% of such budget in each of fiscal years 1997 through 2011;
- 2.6% of such budget in fiscal year 2012;
- 2.7% of such budget in fiscal year 2013;
- 2.8% of such budget in fiscal year 2014;
- 2.9% of such budget in fiscal year 2015;
- 3.0% of such budget in fiscal year 2016; and

• 3.2% of such budget in fiscal year 2017 and each fiscal year after.

A Federal agency may exceed these minimum percentages.<sup>[5]</sup>

#### See also

- Stevenson-Wydler Technology Innovation Act of 1980
- Bayh-Dole Act

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### **External links**

- SBIR/STTR official website (https://www.sbir.gov/)
- 15 United States Code 638 (The SBIR Law) (https://www.law.cornell.edu/uscode/text/15/63 8-/)
- Roland Tibbett's White Paper on SBIR Reauthorization (http://www.nsba.biz/docs/roland\_tib bets\_paper.pdf)
- SBTC-sponsored Tibbett's Award Website (http://www.tibbettsawards.org/)
- Energetically Autonomous Tactical Robot (EATR) (http://www.robotictechnologyinc.com/inde x.php/EATR)

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