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OVERVIEW & PROPOSED REFORMS 9.4.19
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→ Survey to collect input
→ Sign-on letter
→ CEBN testimony/meetings with policymakers
→ Business meetings with policymakers
Intro to the Small Business Innovation Research (SBIR) program

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Overview

• Established by Congress in 1982, the Small Business Innovation Research (SBIR) program is the federal government’s largest annual funding opportunity available exclusively to startups and small businesses.

• Over $3.1 billion awarded to nearly 3,600 firms in Fiscal Year 2018.

• Monitored and coordinated by the U.S. Small Business Administration.

• Awards administered by 11 other federal agencies, each of which is obligated by Congress to set aside 3.65% of its extramural R&D budget:
  • 3.20% for SBIR awards (100% goes to the small business)
  • 0.45% for Small Business Technology Transfer (STTR) awards (typically 70% goes to the small business and 30% to a university partner)
Overview

• The vast majority of these funds are awarded by just five agencies, more or less independently of one another: the Department of Defense (DOD), the National Institutes of Health (NIH/HHS), the Department of Energy (DOE), the National Science Foundation (NSF), and the National Aeronautics and Space Administration (NASA).
Overview

• These awards must be spent almost exclusively on the small business’ R&D expenses (including salary).

• The funding is non-dilutive (i.e. the government receives no direct financial upside).

• Awards are divided into multiple phases with the ultimate goal of new technology commercialization:
  • **Phase I**: $150,000-225,000 during a period of 6-12 months, to establish technical feasibility and commercial potential.
  • **Phase II**: $750,000-1,000,000 during a period of up to 2 years, to support further technology R&D and commercialization efforts.
Overview

• **Phase IIB**: Some agencies allow follow-on awards; for example, NSF will provide a 1:2 match with private-sector investment up to a total of $1.5 million.
  • Last year, Congress extended this supplemental program to all agencies.

• **Phase III**: Not actually part of the SBIR program, “Phase III” generally refers to a direct or sole source procurement of an SBIR-funded technology (typically by DOD or NASA).
How to apply

- Agencies typically issue 1 or 2 funding notices each year

https://sbir.gov/

https://www.zynsys.com/sbir/
How to apply
Research topics can be broad...
(e.g. NSF is essentially open to anything that doesn’t require clinical trials)

Technology topic areas
Review this list of technology topic areas (sectors we fund) to see which best aligns with your company’s work. If none of the technology topic areas quite reflects your work, but you feel your company is otherwise a good fit, you can apply under the Other Topics (OT) category.

- Advanced Manufacturing (M)
- Advanced Materials (AM)
- Artificial Intelligence (AI)
- Biological Technologies (BT)
- Biomedical Technologies (BM)
- Chemical Technologies (CT)
- Digital Health (DH)
- Distributed Ledger (DL)
- Educational Technologies and Applications (EA)
- Environmental Technologies (ET)
- Information Technologies (IT)
- Instrumentation and Hardware Systems (IH)
- Internet of Things (I)  
- Medical Devices (MD)
- Nanotechnology (N)
- Other Topics (OT)
- Photonics (PH)
- Quantum Information Technologies (QT)
- Robotics (R)
- Semiconductors (S)
- Sensors (SE)
- Space (SP)
- Wireless Technologies (W)
How to apply
...or very narrow.
(e.g. DOD defines very specific mission needs with an eye toward ultimate acquisition)
How to apply

• Get early feedback from the relevant Program Manager
• Get a DUNS number
• Register with the federal System for Award Management (SAM)
• Tee up letters of recommendation
• Write up a lengthy proposal according to the agency’s particular guidelines (consultant optional!)
• Submit proposal
• Wait several months for a decision
• Wait a few more months for the funding
Suggested improvements (Congress)

Agency Excellence

• Recommendation: *Make the Administrative Funding Pilot Program permanent.*

• Background: Since 2011, agencies have been allowed to use 3% of SBIR/STTR funds for program improvements, yielding a profusion of innovative initiatives to diversify the applicant pool, upgrade data reporting systems, and provide high-impact entrepreneurship training. Agencies need long-term certainty to make these critical improvements to their SBIR/STTR programs, without the risk of this authority lapsing as it has done in the recent past.
Suggested improvements (Congress)

Entrepreneurial Authority

• Recommendation: *Allow Technical and Business Assistance funds to be spent in-house, rather than mandating one or more external vendors.*

• Background: Recently, SBIR/STTR awardees have been allowed to spend up to $50,000 of their awards on non-R&D expenses such as technical and business expertise. Entrepreneurs should have the discretion to allocate these dollars in the most efficient way, so they should be allowed to choose between spending on their own employees who possess that technical and business expertise, or a contractor of their choice.
Suggested improvements (Congress)

Award Flexibility

• Recommendation: *Extend direct-to-Phase-II authority to all agencies, and make it permanent.*

• Background: For most agencies, only prior recipients of a Phase I (Feasibility and Proof of Concept) award are eligible to apply for Phase II (Research and Development) award. Every agency should be able to make a Phase II award without a prior Phase I award if the small business is ready for it.
Suggested improvements (Congress)

Award Size

• Recommendation: Make the Commercialization Readiness Pilot Program for Civilian Agencies and the Commercialization Assistance Pilot Program permanent.

• Background: Agencies have responsibly used their authority to make follow-on SBIR/STTR awards to promising companies after Phase II, when there is a clear but lengthy path to commercialization (e.g., completing the drug approval pipeline). Agencies need long-term certainty that these authorities will not lapse or expire.
Suggested improvements (Congress)

Short-Form Applications for First Round of Consideration

• Recommendation: *Ensure that agencies create a system for reviewing and greenlighting short-form project descriptions before requiring a more time-intensive full application.*

• Background: Preparing a high-quality application is a complex and time-intensive task for any small business. Reviewing lengthy applications that are a poor fit is also a waste of federal resources and staff time. Some federal agencies provide a short-form initial application that is only a few pages long and can be completed without professional assistance. This approach should be used by all agencies to screen submissions for eligibility and fit.
Suggested improvements (Congress)

Vouchers for Application Assistance, Particularly for Diverse Teams

• Recommendation: Create an independent program administered by the SBA—or competitively bid to an external contractor—to review successful short-form applications on the basis of need and provide vouchers for professional assistance.

• Background: Once selected to proceed with a full application, first-time applicants should be eligible to compete for $3,000-5,000 vouchers from SBA that pay for high-quality technical assistance from professional consultants or state/local assistance programs of their choosing. In allocating these awards, particular preference should be given to underrepresented populations, regions, and universities. This practice will ensure that the most promising technical ideas are able to compete for awards, regardless of the team’s size or prior experience working with the federal government.
Suggested improvements (Congress)

Support for Science-Based Entrepreneurship Programs

• Recommendation: Encourage agencies to allocate funding toward entrepreneurship programs within federal laboratories and universities.

• Background: Over the past five years, innovative entrepreneurship training programs at universities and federal laboratories have generated above-average cohorts of promising SBIR/STTR awardees. Examples include Chain Reaction Innovations at Argonne National Lab, Cyclotron Road at Berkeley Lab, The Engine at MIT, Innovation Crossroads at Oak Ridge National Lab, and numerous incubators and accelerators across the country. Agencies should be encouraged to competitively allocate some of their funding to existing and future programs that build a pipeline of highly-educated entrepreneurs pursuing tough technical challenges.
Suggested improvements (Congress)

Investor Validation

• Recommendation: Allow companies with venture capital (VC) majority ownership to qualify if they meet the small business intent of the SBIR/STTR program.

• Background: Currently, companies that are majority-owned by venture capital funds are excluded from most SBIR/STTR awards. Agencies should have the discretion to waive this requirement, however, for companies that truly serve as independent businesses yet rely upon the financial backing of single or multiple VCs. These companies have been heavily validated during the VC screening process, and such ownership is frequently a natural stage of the progression toward commercialization.
Suggested improvements (agencies)

Dedicated Program Managers

• Recommendation: Encourage agencies to develop teams of dedicated program managers who possess relevant private-sector experience and the ability to work closely with awardees both before and after awards are made.

• Background: Many SBIR/STTR programs are administered as a small portion of an R&D portfolio managed by agency staff with numerous competing priorities. To cater to the unique needs of small businesses with early-stage technologies, it is often ideal to deploy a team of program managers with relevant private-sector experience who focus exclusively on SBIR/STTR awards, akin to the approach used by typical ARPA-E and DARPA program managers.
Suggested improvements (agencies)

Broad, Goal-Oriented Topics

• Recommendation: Encourage agencies to design solicitations based on broad technologies of interest rather than narrow pre-defined research topics.

• Background: Some agencies, such as the National Science Foundation, request more broadly-defined, goal-oriented proposals, whereas others are highly prescriptive in their solicitation topics and may miss highly-impactful, mission-relevant technology solutions proposed by entrepreneurs themselves.
Suggested improvements (agencies)

Speed and Flexibility

• Recommendation: Encourage the use of prizes and other flexible types of transactions to shorten award times. Having dedicated program managers would also help increase speed and flexibility.

• Background: Fast-moving small businesses cannot wait months or a year to hear about funding sources. To the extent possible, agencies should shorten selection and award times, and offer multiple—or even continuous—funding opportunities each year.
Suggested improvements (agencies)

Phase III Opportunities

• Recommendation: Encourage agencies to educate and solicit successful SBIR/STTR awardees to seek and win contracts across the federal government based on agencies’ missions and needs.

• Background: While many agencies offer Phase III (non-SBIR/STTR funding) opportunities, this is typically not widely advertised or understood. Successful SBIR/STTR technologies may have broad applications across the federal government, and facilitating their procurement to serve agency missions is in the best interest of taxpayers.
Other potential improvements (Congress)

Set-Aside Percentages

• Recommendation: Making SBIR permanent and increasing the set-aside percentage would be helpful, but it is more important to optimize agencies’ use of current SBIR/STTR funds.

• Background: Agencies are currently required to allocate 3.65% of their extramural R&D budgets to SBIR/STTR, which in aggregate exceeded $3 billion in Fiscal Year 2019. The program also must be reauthorized every few years. Congressional debate has focused on increasing the percentage and making the programs permanent. However, feedback from SBIR recipients thus far has focused more on improving implementation.
Further reading

• SBA annual reports
• SBIR data dashboard
• National Academies reports on SBIR by agency
• NSF SBIR featured companies
• DOE SBIR featured companies
HOW TO ENGAGE

• Provide your input on federal R&D programs
• Read and sign letter to Congress (Deadline: 9/17)
• Share with other businesses/partners
• Contact Lynn Abramson with Qs: labramson@cebn.org
• Use our Funding Database to navigate upcoming funding opportunities (promo code Changemaker2019 for 10% off)