



TUTORIAL 1

Participating in the Department of Energy's SBIR and STTR programs

OVERVIEW

This is the first in a series of tutorials designed to assist you in preparing a proposal in response to a Department of Energy Funding Opportunity Announcement, or FOA. In this tutorial, we will introduce you to the basic benefits of participating in either the Small Business Innovation Research program, also referred to as SBIR, or the Small Business Technology Transfer program, referred to as STTR.

These two initiatives, the SBIR and STTR programs, are sometimes referred to as the nation's largest source of early stage/high risk funding for startups and small business. To be eligible, the small business must be American-owned, organized as a for profit entity, and have less than 500 employees. There are eleven federal agencies that participate annually in the SBIR program and five that participate in the STTR program.

These agencies designate R&D topics and accept proposals. They fund innovative research that will meet the objectives of each Agency. Each has a unique mission and should be viewed as distinct customers. After this initial introduction we will focus on one agency, the Department of Energy, and will assist you in learning how to prepare a responsive Phase I SBIR or STTR proposal.

GOALS OF THE SBIR PROGRAM

The original charter of the SBIR and STTR programs was to address four goals:

- » First, to stimulate technological innovation
- » Second, to use small business to meet Federal R/R&D needs
- » Third, to foster and encourage participation in technological innovation by socially and economically disadvantaged small businesses, as well as those that are 51 percent owned and controlled by women



- » And fourth, to increase private sector commercialization of innovations derived from Federal research and development—thereby increasing competition, productivity, and economic growth

SBIR funds support this phase. The small business must find funding in the private sector or other non-SBIR/STTR federal funding to support continued development.

Since the program began in 1982, the charter has expanded to:

- » Require evaluation of commercial potential in Phase I and Phase II
- » Make awards that are comparable in size to angel investments in the private sector, and
- » Encourage the federal agencies to accept greater risk in support of agency missions

THE THREE PHASES OF SBIR/STTR

Both the SBIR and STTR programs have three phases. Following submission of proposals, agencies make SBIR awards based on small business qualification, degree of innovation, technical merit, and future market potential. Small businesses that receive awards then begin a three-phase process:

- » Phase I is the concept phase. It lasts six to twelve months and supports exploration of the technical merit or feasibility of an idea or technology.
- » Phase II awards may last for up to two years and expand upon the Phase I results. During this time, the R&D work is performed. Only Phase I award winners are considered for Phase II.
- » Phase III is the period during which a Phase II innovation moves from the laboratory into the marketplace. No

AWARD VALUES

In the Department of Energy's SBIR/STTR Program, Phase I awards are up to \$200,000 or \$250,000 depending on the topic; while Phase II, the principal R&D effort, with awards up to \$1.1 million or \$1.6 million dollars depending on the topic. Phase I research is conducted to test feasibility of the concept during a nine to twelve month period. Phase II research is typically conducted over a two year period. Phase III offers opportunities to small businesses to continue their Phase I and Phase II R&D work to pursue commercial applications of their research and development with non-SBIR or STTR funding. Under Phase III, Federal agencies may award non-competitive, follow-on grants or contracts for products or processes that meet the mission needs of those agencies, or for further R&D.

TO SUCCEED

To succeed in these programs, there are a number of prerequisites:

First, you must have a burning desire to conduct research and development AND a desire to develop a viable product that you want to bring to the marketplace; just wanting to do research is insufficient. You must want to see that research commercialized or turned into a useful product that you and your firm will promote, either directly, or through a variety of commercialization strategies.

» **Phase I awards are up to \$200K or \$250K depending on the topic**

» **Phase II awards up to \$1.1M or \$1.6M million depending on the topic**





R&D

Research & Development

- » SBIR/STTR programs fund R&D, not solutions that have already been developed.
- » However, it is assumed that an applicant has expertise and perhaps related work in the field of interest.

BENEFITS OF WINNING A SBIR AWARD

If you can match your interests and talents with the specific needs of a federal agency, you may be able to secure funding to conduct research and development with no strings attached. By applying for and winning an SBIR or STTR award, you will receive funding to conduct the R&D, retain the rights to the intellectual property, and have the opportunity to obtain additional funding to continue the development of the technology. The SBIR and STTR programs provide a unique opportunity for scientists and engineers to develop and grow a small business.

But don't get ahead of yourself. Often, when people first hear about the SBIR program they ask the following question: if I have already developed a solution can I apply? No, the SBIR and STTR programs fund research and development. The purpose is not to retroactively pay a company for development that they may have already accomplished. However, it is assumed that you have an area of expertise and perhaps related work.

The Department of Energy's SBIR/STTR program office provides the opportunity to increase "private sector commercialization of technology developed through DOE-supported research and development, stimulating technological innovation in the private sector, and improving the return on investment from Federally-funded research for economic and social

benefits to the nation." Small businesses benefit from receiving funding with no strings attached — you do not give up equity in your company, you do not give up rights to the intellectual property, and you do not return the funding (as this is not a loan). What is expected is good research that will lead to a commercial product that will benefit the nation.

Now, there are many side benefits depending on how you formulate your research. You can use your proposal as an opportunity to develop a relationship with a university or with a Federally Funded Research and Development Center, referred to as an FFRDC. You can use this as an opportunity to create a firm or as a means of offsetting the cost of research and development in an established small business. Once you win an award, the DOE will notify your Congressional representatives — thus raising the profile of your firm at the state level. The DOE will also make a variety of **commercialization services available to you at no charge to assist in the successful commercialization of your technology. The benefits of becoming involved with the DOE SBIR/STTR program abound!**

FOR MORE INFORMATION, PLEASE CONTACT

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