SBIR / STTR Basics

SBIR and STTR Funding:

SBIR (Small Business Innovation Research) and STTR (Small Business Technology Transfer) programs, two competitively-awarded, three-phase Federal Government programs, are designed to stimulate technological innovation and provide opportunities for small business. These programs provide "seed funding" for early stage R&D projects that would otherwise not be funded by typical funding sources such as Venture Capital and Angel Investors due to the high risk and early-stage nature of the technology. More than $2.5B is available for small business concerns via these programs.

The R&D in these programs is typically for new, innovative, and here to unknown and unproven technology. These projects are in response to a solicitation by the agency that describes a current problem and or need that the agency has identified as something they would like to address. Phase I, II, and III of these programs are described below.

Reasons to Seek SBIR/STTR Funding

- Over $2 Billion available
- NOT a loan — no repayment
- Provides recognition, verification and visibility for your company.
- Provides seed money to fund high-risk projects.
- Potential leveraging tool to attract venture capital/other sources of financing.
- Intellectual property rights are normally retained by the small business.
- Fosters partnerships (e.g., large corporations, academia)
- Creates jobs and generates tax revenues
- Small business concerns are recognized as a unique national resource of technological innovation.
- Provides economic and societal contributions.

The SBIR Program:

- By federal mandate, participating agencies must set aside 2.5% of their extramural R&D budget for SBIR initiatives.
- **These agencies are**: Department of Agriculture, Department of Commerce, Department of Defense, Department of Education, Department of Energy, Department of Health and Human Services (HHS, includes NIH, CDC and FDA), Department of Transportation (DOT), Environmental Protection Agency (EPA), National Aeronautics and Space Administration (NASA), Department of Homeland Security (HSARPA), and the National Science Foundation (NSF).

The STTR Program:

- .30% of extramural R&D budget set aside for STTR initiatives.
- Program is based on **small business/nonprofit research institution partnerships**.
- Minimum of 40% must performed by small business concern, and minimum of 30% by a US Research Institution. The remaining 30% can be used by either.
- Award is always made to the small business concern, with the research partner acting as a sub-contractor.
- **Participating Agencies:** DOD, HHS, NASA, DOE, and NSF.
- **Advance planning** is key to developing a good relationship with a research institution, as IP agreements must be developed prior to the submission of the proposal. These are difficult to complete in a short amount of time, so be prepared.
- There are three main **benefits** to STTR not found in SBIR.
    1. The amount of the awards are almost the same as in SBIR.
    2. There is typically less competition compared with SBIR.
    3. The Primary Investigator on the project can be employed by a university.

Standard SBIR/STTR Process

1. Agencies describe R&D topics in solicitations that open and close at various times throughout the year at different intervals and frequency for each agency.
2. Small business concerns prepare short (usually 25-page) proposals.
3. Agencies evaluate proposals based on technical merit, firm's qualifications, and commercial potential or societal benefit.
4. Agencies make Phase I Awards.
5. Phase II follows successful Phase I award.

A Three-Phase Program:
Phase I:
- A feasibility study, providing $30-$100K for a 6-month SBIR project or 12 month STTR project.
- Up to 33% of a Phase I SBIR project can be completed by consultants and other research institutions. This is important, as you need to show how your team is better than other teams, has the expertise, experience, and/or unique capability to address this project. Both intellectual resources and equipment resources may be addressed with this part of the funding.
- Funding can't pay for work that you have already performed – it is for proposed research.
- Meant to test high-risk "innovative" ideas that have not yet been proven – if you've already proven your idea, and started to work on it, you can't use SBIR or STTR funds to further develop it. There are other methods and strategies available. That said, you can use the funds to test your idea in new environments, scenarios and situations – as long as there is real research that needs to be done to test your theory and the feasibility of your solution in that situation.

Phase II:
- Prototype development, providing up to $750K for a 2-year project.
- You must submit a Phase I proposal first – you **can't** skip the feasibility stage and go straight to the prototype development.
- Up to 50% of a Phase II SBIR and 60% of a Phase II STTR can be completed by research institutions.
- Some agencies (typically the contracting agencies) require that an official invitation be extended to a Phase I winner by the agency before a Phase II will be accepted. Granting agencies don't normally have this requirement, allowing any successfully completed Phase I project to submit a Phase II proposal.

Phase III:
Other funding outside of the SBIR and STTR program needed to produce a product. Leveraging the Phase I and Phase II projects for Angel, VC and other external funding, as well as working with the agency who funded the research to begin with.

Commercialization Focus:
While you are solving an agencies "problem" or "need" as stated in the solicitation announcement, it is important to remember that this is an economic development program, with a primary focus on the development and commercialization of technology. Developing new products, growing your company, hiring more employees, adding to the local tax base, and helping the economy grow are important issues to address in your proposal and to consider before you enter the program. This is not research for the joy of doing research. The agencies are not fond of awarding funds to companies that never produce commercial products. Those who plan to participate in the program long term will be evaluated on their successful development of products in this program.

No "Unsolicited" Proposals:
All proposals in the SBIR and STTR programs are solicited, which basically means that you must respond to a specific solicitation. A slight exception to this rule is NIH, as they have what could be called an "other" category – as long as your proposal is meeting their mission, they will review it and consider it.

You do have the ability to suggest topics for future solicitations however. This can only be done by developing a relationship with a targeted agency, and can take some time – it can and does work though!

Contracting vs. Granting Agencies:
If you wish to participate effectively in the SBIR and STTR programs, it is imperative that you get to know the agency you are targeting, as all agencies are not alike.

Some agencies (DOD, NASA, DHS, DOT, EPA, HHS/NIH, ED and DOC) use the SBIR and STTR programs as a procurement tool, addressing the needs of their agency. These agencies are more commonly referred to as Contracting agencies -- topics for these will be more focused, with more fiscal requirements, and the agency establishes the plans, protocols and requirements.

Other agencies use the program to help solve societal problems (NSF, USDA, DOE, HHS/NIH and ED), and will have broader topic descriptions. These agencies are more commonly referred to as Granting agencies. Here, the investigator will initiate the approach, the topics are less specific, and there is generally more flexibility in the program.

As you can see, HHS/NIH and ED have both contracts and grants, so be sure to know what you are responding to in order to address the different perspectives.

Finding a Topic:

Each agency has between one and three "solicitation cycles" per year. Each cycle is between 1-2 months long, during which time you can submit your proposal. Some agencies, like DOD, will announce their topics in a pre-solicitation announcement – you can contact the agency during this time to discuss the topics and your solutions and receive valuable feedback that can be incorporated into your proposal. While agencies vary, most restrict the amount of conversation that can take place when a cycle officially opens. The Contracting agencies typically follow this "rule" more strictly than the granting agencies.

- A **solicitation search engine** is located at www.zyn.com. A key word search feature for current open topics as well as past "closed" topics is available (a great way to see who was interested in your technology in the past, and a way to find out what companies were awarded the funding).
- **Solicitation Search Services** are available from Virginia's Procurement Technical Assistance Centers (PTAC). The benefit of this service is it can be done daily, with no work from you, and can provide SBIR, STTR, Broad Agency Announcements, State, and Local opportunities. The service does not provide an ongoing list of open topics though – so other than the day the topic is officially opened, it won't appear on the search.

The Odds of Winning:

More than half of all Phase I's are awarded to companies who have never won before, so if you are new to the program, you are not penalized. It is a highly competitive program though – while agencies vary in win ratio's, one in about nine Phase I proposals are funded. Almost half of Phase II proposals receive funding.

Ways to improve your odds:

- Use resources such as CIT for training, strategy development, consultation, commercialization planning, market assessments, solicitation search, and more.
- Don't judge an agency's interests by its name -- your technology may have a use in many agencies.
- Select topic carefully to make sure it's a good fit for your company -- Don't force the square peg into a round hole.
- Understand the agency's mission & needs -- Get to know your agency Program Manager by calling, emailing, and/or visiting them. This is not unlike any other business development approach. By treating the agency as if they are your customer, you remain focused on developing a solution to their problem.
- Communicate with the agency about the topic and your proposed solution – NSF, USDA, DoED, and NIH don't restrict communications when the topics are officially opened. DOD, NASA, DOT, EPA, DHS and DOC are restricted from speaking directly to you about the topic after it opens, so plan to speak with them prior to the official opening.
- Read solicitation and follow instructions – as in all federal proposals, you must be compliant. Simple errors can get your proposal thrown out before they even review your technical solution.
- Frugality is key – no one is going to get rich off of these programs by themselves, and the agencies know that the funding amounts are relatively small – don't be too ambitious with what you can do.
- Applications may be submitted to different agencies for similar work. Awards may not be accepted from different agencies for duplicative projects however.

Lowest Price Does Not Win:

Unlike other federal work, the lowest price contract in SBIR or STTR does not win. The funding available in each award is relatively small enough that you don't have to worry about under-bidding. They expect you to propose using most of the funds available in an award. NIH even suggests that if you need to bid more than the amount available in the award, justify it and bid it.

Proposal Evaluations:

Your proposal will be reviewed by various types and numbers of people, depending on the agency.
- Some, like NIH, DOE, NSF, USDA and DoED use external peer reviewers – these are typically experts in the field, with the capability of reviewing the technical merits of proposals. If there is someone you want to specifically exclude from being on a review committee for your proposal, due to a conflict of interest, you can indicate that in your proposal.
- DOD, NASA, DOT, EPA, DHS, and DOC use an internal review panel, typically of 3-5 people.
- In most cases, you will not know who the reviewers are. Strict confidentiality clauses are followed by all reviewers, and there is no know breech of confidentiality to have occurred.

The Primary Investigator:

While the primary investigator (PI) does not have to have a Ph.D., they do need to have the ability to oversee the project scientifically and technically. If the PI is going to be a university professor/researcher, they must get a leave of absence from the university if the project is an SBIR. **Note:** Collaborations with universities are encouraged as a way to fill in recognized gaps in your technical abilities.

Requirements to Participate in SBIR and STTR Programs:

- Organized for-profit U.S. business, with 500 or fewer employees.
- At least 51% U.S.-owned and independently operated Small Business located in the U.S.
- P.I.'s (Primary Investigator) primary employment with small business during project.
- All work must be completed in the United States.
- Eligibility is determined at <u>time of award, not at the time of submission.</u>

Support from CIT

CIT can provide some valuable assistance to Virginia companies submitting Phase SBIR/STTR proposals, including: Low-cost training workshops, discounts with proposal consultants (proposal prep & proposal review), discounts on proposal preparation software, intro to 3rd party capital, referral to law firm for free IP and patent consultation, discounts on outsourced cost accounting solutions, SBIR strategy consultation, and funding assistance for select companies seeking their first Phase I or II award (to help pay for some of the above services).

For additional help in securing your SBIR or STTR funding, contact:

Robert Brooke
Director, Federal Funding Programs
Center for Innovative Technology
2214 Rock Hill Rd., #600
Herndon, VA 20170
703-689-3080
rbrooke@cit.org

CIT leads the Commonwealth's efforts to increase the flow of federal research funding into Virginia. CIT's Federal Funding Assistance Program identifies and accelerates opportunities for Virginia's small technology businesses to obtain SBIR, STTR, and other federal grants and contracts.

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