

Introduction to SBIR Grants

Small Business Funding Without Dilution

By

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Who Am I?

- Paul Scott, owner of Matrix Information Service.
- I am a scientist and experienced technical writer. I have helped prepare both academic and business grant applications for over 10 years. I have a broad technology background and a knack for advocacy writing.
- I also write white papers, blog posts, and user documents.
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What Is the SBIR Program?

“The Small Business Innovation Research (SBIR) [program is a] highly competitive program that encourages domestic small businesses to engage in Federal Research/Research and Development (R/R&D) with the potential for commercialization. Through a competitive awards-based program, SBIR enables small businesses to explore their technological potential and provides the incentive to profit from its commercialization. By including qualified small businesses in the nation's R&D arena, high-tech innovation is stimulated, and the United States gains entrepreneurial spirit as it meets its specific research and development needs.” SBIR.gov

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- Emphasis on technological **research and development**.
- Aimed at **commercialization**.
- Focused on needs and priorities defined by the **funding agencies**.

What Is the SBIR Program?

Three Phases (These may vary somewhat by agency.)

- **Phase I:** Up to \$150,000 per award. Project must be completed within 6 months. For research into **feasibility and development** with the aim of completing a prototype or proof-of-concept.

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- **Phase III:** No federal funding. These projects are expected to seek private funding.

What Is the SBIR Program?

- In many ways, pitching for an SBIR Grant is a lot like pitching for VC funding. The government will want most of the same information that investors would. They want a profitable commercial product to come out at the end of the process.
- The difference is that the government is not concerned with making a profit on their investment, so they are willing to fund risky projects that a VC would not.
- And, the government doesn't want ownership or equity.

What Are The Requirements?

- Any for-profit business (including sole proprietorships) with fewer than 500 employees may apply. Some FOAs require incorporation.
- During Phase 1, a minimum of 2/3 of the work must be performed by the proposing business.
- During Phase 2, a minimum of 1/2 of the work must be performed by the proposing business.
- The designated project leader (Principal Investigator) must spend at least 1/2 of their time employed by the proposing business.
- Work must be performed in the United States.

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- **Compliance**

- Follow the FOA religiously.

This is critical in the application, but once you get the award you also have to be scrupulous about the agency's rules. They check. The biggest preventable cause of rejection and other problems is compliance failure.

- Consider a “Compliance Czar”.

Funding Agencies SBIR Portals

- [Department of Agriculture \(National Institute of Food and Agriculture\)](#)
- Department of Commerce
 - [National Institute of Standards and Technology](#)
 - [National Oceanic and Atmospheric Administration](#)
- Department of Defense
 - [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 \(Institute of Education Sciences\)](#)
- [Department of Energy](#)
- [Department of Health and Human Services \(National Institutes of Health, Centers for Disease Control and Prevention, Food and Drug Administration\)](#)
- [Department of Homeland Security \(Science and Technology Directorate\)](#)
- [Department of Transportation](#)
- [Environmental Protection Agency](#)
- [National Aeronautics and Space Administration](#)
- [National Science Foundation](#)
- [**SBIR AWARD SEARCH PORTAL**](#)

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- The need that the agency wants to meet.
- What they want to see (and don't want to see).
- Exactly what you need to do to apply.

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- Funding Opportunity Announcement (FOA)

The most important thing to understand about an SBIR application is **compliance with the FOA**. Reviewers reject >10% of applications purely for lack of compliance.

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The most common mistakes I see are not reading the FOA, or treating it as “guidelines” rather than “rules.” Funding agencies will reject non-compliant applications without review.

Components of an SBIR Application

- Letter of Intent (1 page)

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“Planting the flag.”

The LOI is a formal notice that you plan to apply. You list the people on your team, your company, and a VERY high-level sketch of what you propose (200-400 words).

You receive an identification number that the system uses to track your application.

The LOI is formality, but it's important, because without it you can't apply.

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The Concept Paper is where you flesh out your proposal. Information needed includes...

- The proposed technology, including its basic operating principles and how it is unique and innovative.
- The proposed target level of performance. This must meet or exceed the performance requirements in the FOA (if any), with technical data, etc. to show how the proposed target could be met.
- The current state-of-the-art, including key shortcomings, limitations, and challenges. Explain why the performance target can't be met with current solutions.
- How the proposed technology will overcome these problems.
- Potential impact of the proposed project on the industry.
- The key technical risks/issues associated with the proposed technology development plan.
Remember: FEASIBILITY!
- The need for federal funding.

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SBIR Full Application (15-30 pages)

The Full Application is where you make your real pitch. Here you flesh out the information from the Concept Paper in much more detail.

- Project Overview (10%)
- Technical Description (30%)
- Summary of Objectives and Workplan (40%)
- Team Qualifications and Resources (20%)
- Remember **COMPLIANCE!**

SBIR Full Application (15-30 pages)

- Project Overview
 - **Background:** The history, successes, and current research and development status (i.e., the technical baseline) of your organization relevant to the technical topic being addressed in the Full Application.
 - **Project Goal:** Identify the targeted improvements to the baseline technology and the critical success factors in achieving that goal.
 - **DOE Impact:** The impact that funding would have on the proposed project. Specifically, explain how funding, relative to prior, current, or anticipated funding from other public and private sources, is necessary to achieve the project objectives.

SBIR Full Application (15-30 pages)

- Technical Description
 - **Relevance and Outcomes:** A detailed description of the technology, including the scientific and other principles and objectives that will be pursued during the project. Relevance the FOA, including specific technical targets or other relevant performance targets. Clearly specify the deliverables.
 - **Feasibility:** Show that you can do what you propose, including a description of previous work done and prior results.
 - **Innovation and Impacts:** Describe the current state of the art, how your technology improves on existing solutions, and how your project will advance the state of the art.

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- Summary of Objectives and Workplan

This will be outlined in the FOA, but in general it is a highly detailed project plan, including

- Periodic milestones.
- SMART goals.
- Go/No-Go decision points.
- Success criteria.
- Expected Challenges and Plans to meet them.
- Specific tasks and subtasks, and who is responsible for each.
- How progress will be measured and verified.

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- Team Qualifications and Resources
 - Any special expertise.
 - How much time each team member will contribute.
 - Available facilities and facilities proposed.
 - Any relevant previous work, patents, demonstrated innovations.

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- Remember the Senator from Missouri.

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- **Cost-Sharing:** This is laid out in the FOA, but in general 20%-50% of the total cost of the project must come from non-federal sources.

FAQ

- Do funding agencies have any regional preferences?

Not *per se*, but you can make your region a selling point. Funding agencies are looking for potential commercial success, so pointing out local resources that improve your chances of a successful project is a good idea.

FAQ

- **How do I find funding opportunities?**

Go to the agency portals (links in an earlier slide in this presentation). You can look for FOAs there, and most agencies have newsletters that you can sign up for to keep up on new ones.

FAQ

- Which agencies have the highest award rate?
- What are my chances of winning an award?

Impossible to say with certainty. The funding agencies do publish lists of those who receive SBIR grants, but they don't publish all the people who applied, so there's no way to know the success rate. Institutional knowledge suggests a funding rate of about 1 in 10 to 1 in 20. The SBIR grant applications that I have written have a success rate of about 1 in 6.

FAQ

- Do people repurpose their work to fit different agencies?

There is generally no bar to submitting to different agencies at the same time (but check each FOA). You may need to negotiate, however, if you are chosen to receive an award from more than one. As long as you show how your work meets the project goals outlined in the FOA(s), you are good to go.

Thank You!

- Slide deck available at link in chat.
- Questions: paul@matrixinfoservice.com