SBIR/STTR 101 – The Ins and Outs of Both Programs and this Event

National SBIR Conference
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Outline

• The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs
• Benefits of using the SBIR and STTR programs for innovation
• Applying for SBIR and STTR funding
• Expectations of SBIR and STTR awardees

Getting the most out of this conference

• When you see this image on the slides, it will list the title and time of a talk or panel that you might want to attend to get additional information

Small Business Accounting: Pre-Award Audit Requirements and Issues
Tuesday, 10:30-12:00
THE SMALL BUSINESS INNOVATION RESEARCH (SBIR) AND SMALL BUSINESS TECHNOLOGY TRANSFER (STTR) PROGRAMS

FEDERAL Extramural R&D

Extramural R&D ~$75B/year

SBIR/STTR ~$2.3B/year

federal government

universities

federally funded laboratories

businesses

small businesses
Program Goals

Small Business Innovation Research (SBIR)  est. 1982
- Stimulate technological innovation
- Use small business to meet Federal R&D needs
- Foster and encourage participation by women and socially and economically disadvantaged persons in technological innovation
- Increase private-sector commercialization of innovations derived from Federal R&D

Small Business Technology Transfer (STTR)  est. 1992
- Stimulate and foster scientific and technological innovation through cooperative research and development carried out between small business concerns and research institutions
- Foster technology transfer between small business concerns and research institutions

SBIR and STTR were reauthorized on December 31, 2011 (P.L. 112-81) through September 30, 2017

Major Differences between SBIR & STTR

- STTR: Requires Collaboration with a Research Institution
  - Research Institution
    - College, University, Federal R&D Laboratory, other non-profit research organization
  - Mandatory Intellectual Property agreement
    - Small business and research institution must enter into an agreement that allocates intellectual property rights and rights to carry out follow-on research, development, or commercialization resulting from the above-mentioned project

- Principal Investigator primary employment
  - SBIR: employed by the small business
  - STTR: employed by the small business OR research institution

- Percentage of R/R&D conducted by the small business
  - SBIR
    - Phase I: minimum 2/3 by small business
  - Phase II: minimum 1/2 by small business
  - STTR:
    - Phase I & II: minimum 40% by small business; minimum 30% by research institution
SBIR & STTR Funding Levels

- Agencies allocate a percentage of their extramural R/R&D budgets for the SBIR & STTR programs
  - SBIR: 2.8% (FY 2014), for agencies with >$100B in extramural R/R&D
  - STTR: 0.4% (FY 2014), for agencies with >$1B in extramural R/R&D
- Congress has increased the allocation percentages since the programs were initiated

![SBIR & STTR Funding Levels Chart]

*source: SBIR.gov, 5/15/2014

Small Business Eligibility for SBIR & STTR

- For-profit U.S. business
- 500 employees or fewer, including affiliates
- Ownership (applies to all agencies)
  - Be a concern which is more than 50% directly owned and controlled by one or more individuals (who are citizens or permanent resident aliens of the United States), other small business concerns (each of which is more than 50% directly owned and controlled by individuals who are citizens or permanent resident aliens of the United States), or any combination of these
  - Joint ventures where the entities meet the requirements above
- Portfolio Companies (currently only NIH & ARPA-E)
  - Be a concern which is more than 50% owned by multiple venture capital operating companies, hedge funds, private equity firms, or any combination of these. No single venture capital operating company, hedge fund, or private equity firm may own more than 50% of the concern.

![Small Business Eligibility Chart]
3 Phases

**PHASE I: FEASIBILITY, PROOF OF CONCEPT**
- Award Amount: $150,000 (guideline), $225,000 (max.)
- Project Duration: 6-12 months

**PHASE II: CONTINUE R/R&D FOR PROTOTYPES OR PROCESSES**
- Award Amount: $1,000,000 (guideline), $1,500,000 (max.)
- Project Duration: 2 years

**PHASE III: COMMERCIALIZATION**
- Federal or Private Funding (non-SBIR/STTR funds)
- No dollar or time limits

BENEFITS OF USING THE SBIR AND STTR PROGRAMS FOR INNOVATION
SBIR and STTR Awards

• Critical Early Stage R/R&D funding
  – The SBIR & STTR programs provide funding for high risk, innovative projects
  – SBIR & STTR awards provide credibility when seeking funding or partners
• SBIR/STTR awards are executed as grants or contracts
  – No repayment
  – No dilution of company equity
  – No cost sharing is required for Phases I and II. Cost sharing may not be used as an evaluation criteria.

Basic Science Government Funding  Early Stage Innovation SBIR & STTR Angels  Commercialization Private Funding

Intellectual Property

• Patent rights
  – Small business concerns normally retain the principal worldwide patent rights to any invention developed with Government support
• Government Use
  – The Federal Government receives a royalty-free license for Federal Government use

http://www.uspto.gov


Wednesday, 3:30-5:00
Data Protection

• Protection Period
  – Data generated from your R/R&D is protected from public disclosure for a minimum of 4 years (civilian agencies) or 5 years (DOD) after the conclusion of your award (Phase I, Phase II, or federally funded Phase III)

• Government Use
  – The Government retains a royalty-free license for Government use of any technical data delivered under an SBIR award, whether patented or not

Wednesday, 3:30-5:00

APPLYING FOR SBIR AND STTR FUNDING
Administration of the SBIR and STTR Programs

• The Small Business Administration is the Administrator for the SBIR & STTR Programs
  – Issues policy directives for SBIR and STTR
  – Issues annual reports to Congress
• Federal agencies independently administer their SBIR and STTR programs to serve their mission needs
  – There is NOT a single place to apply for SBIR/STTR awards

SBA SBIR and STTR Policy Directives: Issues and Changes

Wednesday, 8:30-10:00

Which Agencies Participate in SBIR & STTR?

• SBIR
  – Agencies with >$100M in extramural R/R&D
  – 11 Agencies have SBIR programs: DOD, NIH, DOE, NASA, NSF, USDA, DHS, DOC, ED, DOT, EPA
• STTR
  – Agencies with >$1B in extramural R/R&D
  – 5 Agencies have STTR programs: DOD, NIH, DOE, NASA, NSF

DOE, NASA, NIH and NSF SBIR/STTR Program Summary

Tuesday, 10:30-12:00

EPA, DOC (NIST-NOAA), DOT, ED, DHS, USDA SBIR Program Summary

Tuesday, 1:30-3:00

DOD Components’ SBIR/STTR Programs

Tuesday, 3:30-5:00

The National SBIR Conference is a unique opportunity to learn about the SBIR & STTR programs and meet one-on-one with agency personnel
SBIR/STTR Budgets by Agency, FY 2013

~$2.3B in FY13 across all agencies

Agencies with SBIR & STTR Programs | Budget
--- | ---
Department of Defense (DOD) | $1.0B
Department of Health and Human Services (HHS): National Institutes of Health (NIH)* | $697.0M
Department of Energy (DOE), including Advanced Research Projects Agency (ARPA-E) | $183.9M
National Science Foundation (NSF) | $153.0M
National Aeronautics and Space Administration (NASA) | $148.8M

Agencies with SBIR Programs | Budget
--- | ---
U.S. Department of Agriculture (USDA) | $18.4M
Department of Homeland Security (DHS): Science and Technology Directorate (S&T) and Domestic Nuclear Detection Office (DNDO) | $15.7M
Department of Education (ED)* | $13.4M
Department of Transportation (DOT) | $7.6M
Department of Commerce (DOC): National Oceanic and Atmospheric Administration (NOAA) and National Institute of Standards and Technology (NIST)* | $7.4M
Environmental Protection Agency (EPA) | $3.8M

*NIH and ED also issue contracts; Within DOC, NIST issues grants and NOAA issues contracts

Grants versus Contracts

<table>
<thead>
<tr>
<th>Topics</th>
<th>Grants</th>
<th>Contracts</th>
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<tbody>
<tr>
<td>Broader, investigator initiated</td>
<td>Focused, agency establishes requirements</td>
<td></td>
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<tr>
<td>Financial and Project Flexibility</td>
<td>More</td>
<td>Less</td>
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<tr>
<td>Primary Deliverable</td>
<td>Technical Report</td>
<td>Prototype</td>
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<tr>
<td>Primary Customer</td>
<td>Commercial Markets</td>
<td>Federal Government</td>
</tr>
<tr>
<td>Agency Phase III Funding</td>
<td>Limited</td>
<td>Available</td>
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</tbody>
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Identifying agencies that have topic areas that align with your interests/technologies

- Search Agency Solicitations
  - sbir.gov: [http://www.sbir.gov/solicitations](http://www.sbir.gov/solicitations)
  - Follow up with agency personnel listed with individual topics
- Attend SBIR Conferences: national, regional, and state
  - One-on-one meetings with agency program managers

**Example Topics**

- NSF (broad topic)
  - M2. Machines and Equipment
    Innovative machines and equipment for applications in a range of advanced manufacturing operations for nano-, micro-, and macro-scale products, in all industries including manufacturing, construction, and recycling. Innovative equipment modification or retrofitting to enable manufacturing of completely new products is encouraged.

- DOD (specific topic)
  - A14-086 TITLE: Room Temperature Ballistic Testing Backing Material
    OBJECTIVE: To develop a consistent ballistic backing material with a controllable formulation/mechanical behavior relationship capable of passing the standard column drop calibration test at room temperature.
Guidelines for Submitting Applications

• Application guidelines are contained in the SBIR/STTR solicitations issued by the agencies.
• There are two federal portals where agencies post their solicitations:
  – Granting agencies use grants.gov (www.grants.gov)
  – Contracting agencies use Fedbizopps (www.fbo.gov)

What Do I Need To Know About SBIR/STTR Submission Portals?

Wednesday, 3:30-5:00

Keys to Submitting a Good Application

• Read and understand the topic
  – Communicate with the technical person at the agency responsible for the topic if you require clarification on the topic scope
  – Agencies, particularly contracting agencies, may have periods when you cannot communicate directly with their personnel to ask questions because of fairness requirements
• Comply with the application requirements (read the solicitation)
  – Get registrations done early
  – Include required documents; pay attention to word and page limits
  – Don’t submit at the last minute!

State and Regional Resources, Partnering with Federal Laboratories

Wednesday, 10:30-12:00
Review of Applications

• Granting agencies
  – Typically use external peer review
  – Reviewers agree to keep application information confidential and certify that they don’t have conflicts of interest

• Contracting agencies
  – Typically utilize agency personnel for review

What Are Agency Proposal Reviewers Looking For?

Wednesday, 1:30-3:00

Award Statistics

• Phase I
  – The SBIR and STTR programs are very competitive
  – 10-25% of applications result in awards (varies by agency and year)

• Phase II
  – Agencies generally are interested in having their successful Phase I awardees continue to Phase II
  – 30-60% of a Phase II applicants receive awards (varies by agency and year)

source: SBIR.gov, 6/3/2014
Application Feedback

- Feedback provided on your application will vary by agency
- Typically you will be provided with comments on your application
- Make the most of feedback to improve future applications

EXPECTATIONS OF SBIR AND STTR Awardees
## Government Regulations & Oversight

- **Fraud, Waste & Abuse**
  - The Office of the Inspector General constantly monitors awards issued by the government for illegal or improper use of government funds

- **Export Control & International Traffic in Arms Regulations (ITAR)**
  - If you work on technologies that are restricted because of national security concerns, you must comply with relevant statutes

### What Do I Need To Know About International Traffic in Arms Regulations (ITAR)?
- **Wednesday, 1:30 - 3:00**

### What Do I Need To Know About Fraud, Waste and Abuse?
- **Tuesday, 10:30-12:00; 3:30-5:00**

## Accounting Practices

- **Award negotiation**
  - Biggest challenge is companies that are new to government accounting practices do not understand approved costs that can be included in indirect (overhead) rates

- **Reimbursement**
  - Grants and contracts have different terms and conditions for reimbursement and reporting of expenses

### Small Business Accounting: Pre-Award Audit Requirements and Issues
- **Tuesday, 10:30-12:00**
Since the SBIR and STTR programs were created there has been increasing emphasis on increasing positive commercialization outcomes from SBIR and STTR awards.

The 2011 Reauthorization mandated the following changes:

- Implementation of Transition Rate metrics
- Increased flexibility for Technical/Commercialization Assistance
- Sequential Phase II awards
- Commercialization Readiness Pilot Program for Civilian Agencies

The SBIR/STTR Reauthorization Act of 2011 required all agencies to implement two transition rate metrics:

- Phase I → Phase II transition rate
  - Applies to companies that have received > 20 Phase I awards in the past 5 years
  - Metric calculation example for FY 2014
Commercialization Transition Rate (cont.)

- Phase II → Phase III success rate
  - Applies to companies that have received > 15 Phase II awards during the last 10 fiscal years, excluding the two most recently completed fiscal years
  - Metric calculation example for FY 2014

  OR

- Companies that fail to meet either metric will be ineligible to apply for any Phase I awards for 1 year
- Prior to submitting your application, companies can see if they fail to meet either metric by checking the SBA company registry (sbir.gov)

Commercialization Assistance

- Technical/Commercialization Assistance Programs
  - $5000 during Phase I and $5000/year in Phase II
  - Agencies provide these services through one or more contractors
  - Small businesses may elect to specify their own vendor instead of using the agency’s contractor(s)
- The goal of these assistance programs is to improve commercialization planning and outcomes

What Do I Need To Know About Commercialization Planning?

Wednesday, 10:30-12:00
Commercialization Readiness Programs

- Commercialization Readiness Program (CRP) at DOD
  - The purpose of the CRP is to accelerate the transition of SBIR and STTR funded technologies to Phase III, especially those that lead to programs of record and fielded systems

- Commercialization Readiness Pilot Programs at Civilian Agencies
  - Pilot programs being initiated at some of the agencies
  - 10% of SBIR and STTR funding may be used towards improving commercialization outcomes

Commercialization Paths

- The path to commercialization requires many small businesses to successfully navigate a path that involves additional investment (federal and private), a choice of business models (licensing vs. manufacturing), and partnering arrangements

Investments: VC, Angel Investor, Incubator and Crowdfunding Opportunities
  - Wednesday, 8:30-10:00

Industry Partnering
  - Wednesday, 3:30-5:00
Tracking Commercialization Outcomes

• Improving Commercialization
  – Agencies and SBA are gathering commercialization outcomes in order to improve the operation of the SBIR and STTR programs
  – The National Academy of Sciences is required to carry out a study every four years on the SBIR and STTR programs

• Data Requests
  – Please comply with requests to submit data on your follow-on investments and revenues as part of these efforts
  – Individual small business data will be kept confidential

Summary

• SBIR and STTR are large federal programs designed to foster technological innovation and technology transfer at small businesses
• The programs allow you to patent the technologies you develop and provide periods of protection for the data you develop
• Applying for SBIR or STTR awards requires you to learn about the individual programs that are administered at the Agencies
• Receiving an SBIR or STTR award carries with it the responsibility to comply with federal regulations and the expectation to commercialize your innovations
QUESTIONS?

I WANT YOU FOR SBIR/STTR