Arkansas Small Business and Technology Development Center presents

Introduction to the SBIR/STTR Program

Webinar
June 29, 2015

Funded in part through a grant award with the U.S. Small Business Administration.
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Program

✓ Overview of SBIR/STTR Program
✓ Intellectual Property Considerations
✓ Finding a Topic Match
✓ Market Research
✓ Proposal Planning Techniques
SBIR Success Stories

• **Qualcomm** - World leader in next generation mobile technologies

• **Symantec** – Global software giant -- now the largest maker of security software for computers.

• **The iRobot Corporation** - Designs robots such as the Roomba, for home vacuuming, and the PackBot, for the US military.

Arkansas Success Story

**Video interview**

[https://www.youtube.com/watch?v=pvRC2CTkyJQ](https://www.youtube.com/watch?v=pvRC2CTkyJQ)

**Acetaminophen Toxicity Diagnostics, LLC (ATD)**
*(housed in Arkansas Children’s Hospital)*

**Problem:** Acetaminophen overdose - leading cause of acute liver failure in the U.S.

**Solution:** ATD’s point-of-care dipstick test to determine acetaminophen toxicity in case of overdose

**STTR program success:** ATD won Phase I and II awards through NIH STTR program, along with three state-level grant awards

**Current stage:** ATD is currently working with the FDA to make the product commercial-ready.
What is the SBIR/STTR Program?

A federal funding mechanism to support small businesses and their partners:

- Address agency-identified critical need areas
- Encourage technological innovation
- Develop new products/services that address commercial market needs
Why SBIR?

S  Small businesses create most new jobs
B  Business ideas validated, business practices imposed
I  Innovations that are high risk/high payoff; **globally** successful new products that meet government and private sector needs
R  Research and development by our nation’s brain trust
Projects that SBIR/STTR will *not* fund

- Basic research (traditional academic)
- Development of non-disruptive technologies
  - *These are products that do not improve existing products/services through innovative processes*
- Full-scale manufacturing
SBIR Program Background

- Small Business Innovation Development Act of 1982

- Participating agencies reserve 2.9% of their R&D budgets for SBIR program

- Small Business Administration (SBA) oversight

- Since its start, $\approx$ 30 Billion in SBIR awards

- 2015 Budget: $\approx$ 2.4 Billion
Agencies in SBIR Program

- Department of Agriculture (USDA)
- Department of Education (DoED)
- Department of Energy (DOE)
- Department of Health and Human Services (HHS)
- National Science Foundation (NSF)
- Department of Homeland Security (DHS)
- Department of Commerce (DOC)
- Department of Defense (DoD)
- Department of Transportation (DOT)
- National Aeronautics & Space Admin (NASA)
- Environmental Protection Agency (EPA)

Access these agency program pages at https://www.sbir.gov/
Small Business Requirements

- Organized as a for-profit business
- 51% U.S.-owned and independently operated
- Small business located in the U.S.
- 500 or fewer employees
- Principal Investigator (PI) primary employment with small business during SBIR project
Agencies in the STTR Program*

- Department of Defense
- Department of Energy
- Department of Health and Human Services
- National Aeronautics and Space Administration
- National Science Foundation

*These agencies have over $1B in external R&D funding
STTR Program Features

• STTR requires a working partnership between small business and a nonprofit research institution in Phase I and II.
• The small business must perform at least 40% of the research; the university at least 30%
• The PI does not need to be primarily employed by the small business.
• Both parties need to sign off on an intellectual property (IP) agreement
SBIR/STTR Program Phases

PHASE I*
- Timeframe: **SBIR**: 6 months; **STTR**: 12 months
- Award Size: SBIR and STTR: $150K ($60K-$225K)

PHASE II*
- Timeframe (SBIR and STTR): 2 years
- Award Size (SBIR and STTR): $1M ($500K-$1.5M)

PHASE III
- Commercialization Stage – Products enter market
- Funding from non-SBIR sources/ sole source contracts

*Phase I and II supplements available at some agencies
SBIR: PI and Subcontract Rules

SBIR – Principal Investigator
- Must be 51% employed with the small business at time of award
- PI cannot be full-time employed by another organization at the time of SBIR award

SBIR - Subcontract
- Up to 1/3 (33%) of the total Phase I effort can be subcontracted to other parties
STTR: PI and Subcontract Rules

STTR – Principal Investigator

- **Not** required to be full-time employee of the small business applicant
- Needs to devote a substantial time contribution to the project (*NIH STTR: Requires 1.2 calendar months*)

STTR - Subcontract

- Up to 60% of the effort can be subcontracted to the primary nonprofit university partner or multiple partners.
SBIR Reauthorization: Program Changes

- Program officially extended for 6 more years
- By 2017, agency SBIR budget allocation increase - 2.5% to 3.2%; STTR will increase from 0.35% to 0.45%
- Phase I can be bypassed (NIH, DoD, DoED) at agency discretion
- Awards open to companies majority-owned by multiple venture capital operating companies (NIH, NSF and DoEd may opt in)
- Phase I and II awards will be larger
SBIR Success Ratios

- **Phase I**
  Between 10-20%

- **Phase II**
  Between 30-50%

- Odds vary by agency
Preparation for IP Protection

- IP protection does not have to be in place prior to SBIR/STTR proposal submission.
  - Do need a plan!
- Review *America Invents Act* (March 2013)
- Patent search through the United States Patent and Trademark Office (*USPTO.gov*)
- SBIR award search
Bayh-Dole Act (1980)

- Uniform patent policy among federal agencies that fund research
- Enables small business and non-profit organizations to retain title to inventions made under federally-funded research programs
- Expectation: Awardees will take action to bring inventions to market
- Government retains:
  - Non-exclusive license to practice patent
  - March-in rights
Intellectual Property Protection

- Patent or trade secret
- Secure a patent attorney
- Mark proprietary information in proposals
- **SBIR Data Rights**: (see SBIR Policy Directive)
  - SBIR agencies required to protect from disclosure and non-govt. use all SBIR technical data developed from work performed under an SBIR funding agreement.
  - Protection period starts after delivery of last deliverable under the agreement
  - 4 years for non-DoD contracts; 5 years for DoD contracts
Technical Research: Topic Search
Topics & Solicitations

- All proposals must respond to agency research topics

- **Grant agencies** – Broad topics; open dialogue

- **Contract agencies** – Narrow topics; restricted dialogue
Sites for Topic Searches

**SBIR.gov:** ([https://www.sbir.gov/](https://www.sbir.gov/))
- “Funding” menu tab – search closed topics
- “Awards” menu tab – search for prior awards

**SBIR Gateway:** ([http://zyn.com/sbir/](http://zyn.com/sbir/))
- “Search Services” menu toolbar – options for searching topics and awards
SBIR/STTR Program Takeaways

- Bayh-Doyle Act protects the inventor
- Third-party validation of technology
- Forces sound business practices
- Phase I awards satisfy Federal Acquisition Regulation Part 6
- Sole-source contract arrangements
Market Research
Determine Path to Market

Identify Potential Applications

- Segment your customer market
- Potential to address each market need
- Narrow initial focus to one problem area

Enhance Knowledge of State of the Art

- Know the major competitors
- Qualify and quantify potential end-users
Network for Partners

Locate Potential Project Partners

- Individuals who fill knowledge gaps
- Conditional position offers

Meet with Potential Customers

- Provide product demonstrations
- Address concerns
- Offer trial product use

Secure Support Letters
Proposal Planning Techniques
Register Your Company

- Grants.gov
- SBIR.gov - (http://sbir.gov/registration)
- SAM.gov – System for Award Management has replaced the Central Contractor Registry (https://www.sam.gov/portal/SAM/##11)

- Allow 2-4 weeks for registration
- Can involve multiple site submissions
Concept Paper Summary

- Serve as miniature version of full proposal
- Establish relationships with program managers
- Narrow scope of focus for Phase I
- Demonstrates significance of proposed research
For 150,000 and 6 months, I will prove the feasibility of X. To prove the feasibility of X, I have to answer 3-5 questions.

When I prove the feasibility of X by answering 3-5 questions, the world is Y better.
Proposal Evaluation Criteria

- Technical merit
- Team qualifications
- Value to agency
- Commercialization potential
- Cost / cost realism
Proposal Writing Plan

Generate **master outline**
- Keep instructions in proposal outline
- Page count budget per section

Establish **proposal schedule**. Allow extra time for:
- Review/Revision: Establish internal review process
- Phase III and Consultant Letters
- Cost Proposal
- E-submissions
Sample Proposals

NIH:

DoD:
The survey email will come from Wendy Orvis of the ASBTDC.

Form field will look like this:

Wendy Orvis
noreply@qemailserver.com

Only 5 minutes to complete!
Thank you!

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Today’s webinar hosted by
Arkansas Small Business and Technology Development Center

The Arkansas Small Business and Technology Development Center is funded in part through a cooperative agreement with the U.S. Small Business Administration. All opinions, conclusions or recommendations expressed are those of the author(s) and do not necessarily reflect the views of the SBA.