SBIR/STTR Overview

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SBIR/STTR Program

➢ **What is the SBIR/STTR Program?**

- **A $2.5B+ early stage R&D funding resource for early-stage, high-risk innovative technology leading to commercialization – currently for small businesses only – with some exceptions**

- **Federal Agencies must set aside extramural R&D funds for the programs:**
  - **SBIR – 3.0%**
  - **STTR – 0.4%**

SBIR/STTR Program

➤ **What is the Purpose of the SBIR/STTR Program?**

- **Stimulate technological innovation**

- **Use Small Business to meet Federal R&D needs**

- **Foster and encourage innovation and entrepreneurship by socially and economically disadvantaged small businesses**

- **Increase private-sector commercialization of innovations derived from Federal R&D funding**

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SBIR/STTR Program

- ➢ **SBIR: Small Business Innovation Research**
  - • **Small business performs 66% of work, subcontracts balance remainder**

- ➢ **STTR: Small Business Technology Transfer**
  - • **Small business performs minimum 40% of work, MUST partner with research institution (30%) and negotiate allocation of IP rights**

- ➢ **11 Federal Agencies participate**
  - • **Solicitations issued with topics of interest**

SBIR/STTR Program

➤ **For Small Businesses that are:**

- Independently owned and operated

- Organized for-profit

- Principal place of business is in the USA

- 51% + ownership by US citizens/permanent residents

- 500 or less employees, including affiliates

- Principal Investigator (PI) leading the effort must be more than 50% employee of the business

SBIR/STTR Program

Is SBIR/STTR Program Right for My Company?

Do you have an idea for a technology that is:

- **Revolutionary not evolutionary, or a novel application of an existing technology**
- **Improves the societal, medical or other aspects of a person's life**

Advances the existing state of science

- **Once commercialized, provides jobs, benefits & taxes**
- **Want to start a business or keep your company growing**

SBIR/STTR Program

➤ **Three Phase Effort:**

- **Phase I: Feasibility**
- **Phase II: Prototype Development**
- **Phase III: Commercialization**

➤ **Companies submit ~25 page proposal**

➤ **Technical Competition – not cost**

SBIR/STTR Program

How does the SBIR/STTR program work?

Phase I – Feasibility Study	• Will your idea work? • Submit ~25 page proposal • Performance period – 6-9 months • Funding level – Up to $225,000 • Average success rate 10% - 15%

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SBIR/STTR Program

How does the SBIR/STTR program work?

Phase II – Prototype Development

- Bench level – develop commercialization potential
- General submission from Ph I typically
- Submit ~25-50 page proposal
- Performance period – 2 years
- Funding level – Up to $1,000,000
- Average success rate 40-50%

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SBIR/STTR Program

How does the SBIR/STTR program work?

Phase III –
Commercialization

- No SBIR/STTR funding, but other Federal funding may be available
- MTI Development Loans or Equity Capital Funding
- Three "F's", Angels, Venture Capital

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SBIR/STTR Agencies

➢ **Department of Defense**

Army, Navy, Air Force, Defense Advanced Research Projects Agency, Defense Technical Information Center, Defense Threat Reduction Agency, Missile Defense Agency, National Geospatial-Intelligence Agency, Special Operations Command

➢ **National Institutes of Health**

➢ **National Aeronautics & Space Administration**

➢ **Department of Energy**

➢ **National Science Foundation**

➢**SBIR Only:**

- **Department of Homeland Security**
- **U.S. Dept. of Agriculture**
- **Department of Education**
- **Environmental Protection Agency**
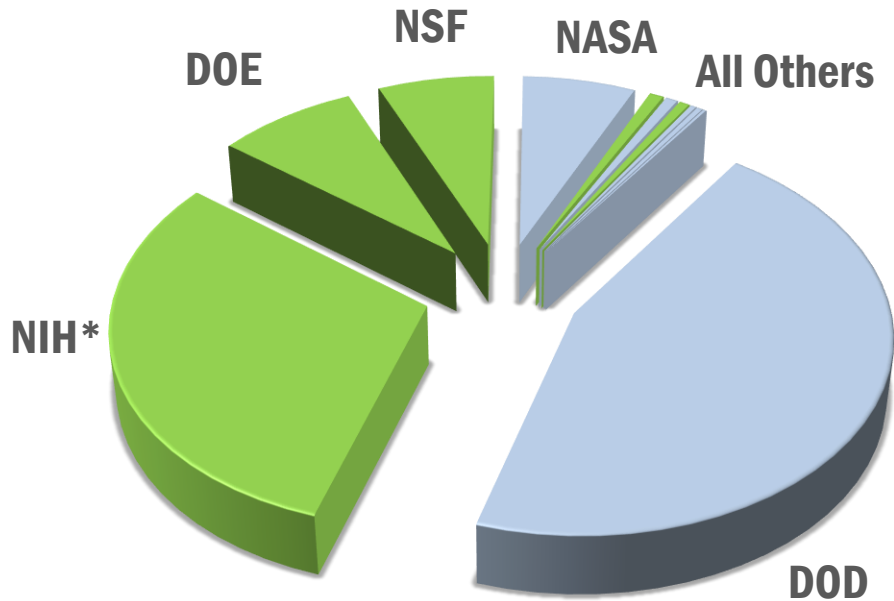- **Department of Transportation**

• **Department of Commerce:**

- **National Institute of Standards & Technology**
- **National Oceanic and Atmospheric Administration**

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Agency Differences

Award Type, Size & Structure – Grant vs. Contract

	GRANTS	CONTRACTS
Topics	Broader, investigator initiated	Focused, agency establishes requirements
Financial and Project Flexibility	More	Less
Primary Deliverable	Technical Report	Prototype
Primary Customer	Commercial Markets	Federal Government
Agency Phase III Funding	Limited	Available

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SBIR/STTR Budgets by Agency, FY 2013

~$2.3B in FY13 across all agencies

Grants ▬ (green)
Contracts ▬ (light blue)

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

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

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)	$15.7 M
Department of Education (ED)*	$13.4 M
Department of Transportation (DOT)	$7.6 M
Department of Commerce (DOC): National Oceanic and Atmospheric Administration (NOAA) and National Institute of Standards and Technology (NIST)*	$7.4 M
Environmental Protection Agency (EPA)	$3.8 M

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Which should YOU use?

➢ **Depends on several variables:**
- **Does the agency offer STTR?**
- **Where was the idea originated?**
- **What are small business capabilities?**
  - **People**
  - **Facilities**
- **Is it Tech Transfer?**
- **IP Ownership?**

➢ **Don't Decide by Yourself!**
- **Talk to the agency topic manager**
- **Call MTI**

What's new?

➢ **Companies may switch between STTR & SBIR:**
- **Phase I STTR to SBIR Phase II**
- **Phase I SBIR to STTR Phase II**

➢ **Direct to Phase II**
- **Allows companies that are ready for Phase II development to bypass Phase I Feasibility**

➢ **Fast Track**
- **Allows companies to submit Phase I & II together**

➢ **Technical Assistance**
- **Guides commercialization efforts in both Phase I & II**

➢ **Matching Programs**
- **Phase IB and Phase IIB offer additional agency funding**
- **Requires outside funding match**

The Good News

➢ **Evaluation is based on scientific and technical merit, firms' qualifications, commercial potential and societal benefits**

➢ **Requires NO REPAYMENT of monies received – grant or contract**

➢ **Requires NO EQUITY sacrifice**

➢ **Intellectual property rights remain with small business**

➢ **Follow-on Phase III awards are sole source up to 4 years from date of last SBIR/STTR award**

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SBIR/STTR Reality

➢ **Highly Competitive – Requires excellence in all aspects of competition process**

➢ **Funding generally NOT CONTINUOUS between Phase I and Phase II**

➢ **A credible project team must be assembled**

➢ **A viable commercialization plan is critical**

➢ **You need to submit an excellent and compelling proposal that excites reviewers, is complete and is innovative**

The Process

➢ **SBIR/STTR is a PROCESS that takes time:**

- **Submit a proposal**
- **4 to 6 month review process by internal or external panel of reviewers**
- **1-2 month award process**
- **6-9 month period of performance for Phase I**
- **Submit Phase II proposal**
- **4 month review process**
- **2 year period of performance for Phase II**
- **Commercialization**

On average a 3-4 year program but uses OPM (other people's money)!

How to Begin

Understand where your technology is in the market

- Search the literature
- Conduct market research
- Talk to others
- Understand what differentiates your approach and technology from others
- Begin establishing your team
- Research topics and determine fit
- Talk to agency Program Manager

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Identify Agencies and Topics

➢ **Search Agency Solicitations**
- **Agency websites www.sbir.gov/agency-contacts**
- **SBIR.gov www.sbir.gov/solicitations**
- **Grants.gov www.grants.gov**
- **FBO.gov www.fbo.gov**
- **SBIR Gateway www.zyn.com/sbir/sbres/sbcss.htm**
- **Follow up with agency personnel listed with individual topics**

➢ **Attend SBIR Conferences**
- **National, Regional and State conferences**
- **One-on-One meetings with agency program managers**

How to Access Information

➢ **www.sbir.gov**
- **Information on SBIR and STTR programs**
- **Handbook for proposal preparation**
- **State award information**
- **Agency contacts & more!**

➢ **www.zyn.com/sbir**
- **Links to agency SBIR/STTR sites**
- **Agency solicitation release/proposal due dates**
- **Key word search on topics – open & closed solicitations**
- **Conference information**

The Registration Process

- ➢ **Register with:**
  - ➢ **the business with the IRS and receive a Taxpayer Identification Number**
  - ➢ **Dun & Bradstreet at http://fedgov.dnb.com/webform (free, 1 day)**
  - ➢ **System for Award Management (SAM) at https://www.sam.gov**
  - ➢ **SBA Registry at www.sbir.gov**
- ➢ **Depending on the Agency:**
  - – **register at www.grants.gov,**
  - – **the DOD Submission site - http://www.dodsbir.net/submission/SignIn.asp,**
  - – **the Nat'l Science Foundation (NSF) Fastlane site - https://www.fastlane.nsf.gov/index.jsp and**
  - – **National Institute of Health (NIH's) eRA Commons - https://public.era.nih.gov/elf/jsp/commons/login.jsp**
  - – **Department of Homeland Security portal - https://sbir2.st.dhs.gov**

If no problems at any point, registration can occur within a week, if problems up to 4 weeks

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Elements of a Proposal (1)

➢ **Abstract**

➢ **Project Narrative**

- **Identification/Significance of problem or opportunity**

- **Background & Phase I Technical Objectives**

- **Phase I Research plan**

- **Commercial potential**

Elements of a Proposal (2)

➢ **Other Requirements**
- **Budget – you can take up to 7% profit (~$10,500)**
- **Biographies of key personnel**
- **Facilities, Equipment & Other resources**
- **Bibliography & References**
- **Other attachments:**
  - **Consultants & Subawards/Subcontracts**
  - **Letters of Support**

Keep in mind: each agency has its nuances!

Never judge an agency by its name!

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It's all about Commercialization

➢ **Since the SBIR and STTR programs were created, there has been emphasis on increasing positive commercialization outcomes from awards**

➢ **The 2011 Reauthorization mandated changes:**

- **Implementation of transition rate metrics**
- **Increased flexibility for Technical/Commercialization assistance**
- **Sequential Phase II awards**
- **Commercialization Readiness Pilot Program for Civilian Agencies**

All discussion for another day!

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Impact to Maine

- ➢ **Over 100 small businesses have won awards**
- ➢ **Businesses in all 16 Maine counties have received awards**
- ➢ **Maine's small businesses have received over $90M since 1997**
- ➢ **Small businesses have received over $70M since MTI's inception in 1999**
- ➢ **With MTI support, companies tend to have a *higher* success rate than going it alone!**

Success Stories

Sea & Reef Aquaculture

➢ **2009: Received USDA SBIR Phase I award**

➢ **Period of performance: 6 months**

➢ **Award amount: ~$80K**

➢ **Commercialized following award!**

Maine Blizzard Clownfish From Sea & Reef Aquaculture

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Success Stories

Ocean Renewable Power Company

- **2 ARRA STTR awards from Department of Energy Tidal Turbine – Eastport, ME**

- **Additional awards in Alaska for riverine use**

Success Stories

Ocean Farm Technology, Inc.

➤ **Four SBIR NOAA awards for Aquapod open ocean farming technology**

➤ **MTI Seed Grants & Development Awards**

➤ **Sold company in 2015**

Success Stories

Tex-Tech Industries

➢ **Six SBIR and STTR awards for textile fire barrier development and textiles for penetration resistance**

➢ **MTI Seed Grants & Development Awards**

➢ **2006 Tibbetts Awardee**

Summary

➢ **SBIR and STTR are large federal programs designed to foster technological innovation and technology transfer for small businesses**

➢ **These programs allow you to patent technologies you develop and provide periods of protection for data you develop**

➢ **Applying for SBIR or STTR awards requires you to learn about the individual programs at each agency**

➢ **Receiving an SBIR or STTR award carries with it the responsibility to comply with federal regulations and the expectation to commercialize your innovations**

Just a reminder…

Since 1999, over 100 Maine companies have received more than 300 SBIR/STTR awards totaling over $90 million.

Starting with this workshop, your company could be the next!

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FINALLY...

"If we knew what we were doing, it wouldn't be called research, would it?"　　**-Albert Einstein**

"Trust that little voice in your head that says "Wouldn't it be interesting if..." – and then do it."

-Duane Michals

"You do not really understand something unless you can explain it to your grandmother."　　**-Albert Einstein**

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