Innovation Acceleration:
Finding and Funding Resources
~ SBIR/STTR and Business Development~

CNY RISP and SBIR Program
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September 10, 2013
Topics

1. SBIR and STTR
2. Innovation Resources in NYS
3. Federal and State Funding Opportunities
4. Opportunity-focused Ideation Programs
Acronyms from Federal to Local Programs

- **Federal:** SBIR/STTR

- **State:** NYSTAR (under Empire State Development)
  - RTDCs (10), COEs (6) and CATS (15)

- **Regional:** TDO = Technology Development Organization: RISP and SBIR; also the CNY RTDC

- **Local:** AM&T = Alliance for Manufacturing & Technology; Southern Tier RTDC
Starting here: “What is S-B-I-R?”

- Federal Legislation
- Program Basics
- Phases I, II, and III
Purposes of SBIR/STTR

• To stimulate technological innovation through funding of early stage R&D

• To increase the commercialization of products and services from federal R&D assistance (SBIR/STTR)
  – Potential for partnerships in R&D that will create value in new businesses and generate intellectual property
NYS SBIR Outreach Program Objectives

- Increase the number and success of small NYS technology or innovation-based businesses
- Stimulate and encourage broader SBIR and STTR participation
- Increase the number of awards at all levels (Phases I, II and III)
- Reach out to small businesses
- Provide assistance in applying for awards
  - Though not writing proposals
www.sbir.gov

- Primary site for access to SBIR and STTR information
- Links to all 11 SBIR agencies
- Links to all 5 STTR agencies
- Alternative site: www.zyn.com/sbir
What does SBIR/STTR fund?

- Pre-feasibility R&D
  - Scientific breakthroughs
  - Applications for emerging technologies
  - Novel applications of existing technologies
  - New capabilities or major improvements to existing technologies
Important Factors for Positioning your Proposal

• Commercial application is the focus
  – Provide good ROI evidence
• Market and customer need is the driving force
• Economic prosperity for the U.S.
  – Job creation
  – Richer tax payers
  – Keep the U.S. globally competitive
General Points for SBIR and STTR

- These are grant (or contract) programs
  - Company owns all IP from the research

- SBIR and STTR fund pre-feasibility R&D
  - NOT marketing or business development
  - Not patenting

- The small company must be the applicant
  - <500 employees, American-owned
Reasons for the U.S. to Be Interested in SBIR

• The U.S. supports technology development to meet national objectives:
  – military, commerce, health, education, space, energy, agriculture, transportation, the environment and basic science
The Federal Government uses small businesses to meet federal R&D needs

- Recognizes the role small companies play in producing innovations
  - Small businesses have generated 64% of net new jobs over the past 15 years.

  - Produce 13 times more patents per employee than large patenting firms; these patents are twice as likely as large firm patents to be among the one percent most cited
Companies that were started with SBIR Funding
Available Funding

- Both follow a three-phase process

  - **Small Business Innovation Research (SBIR)**
    - Eleven federal agencies
    - ~$2.0B to ~2.5B annually

  - **Small Business Technology Transfer Research (STTR)**
    - Five federal agencies
    - Over $200M annually
    - Requires non-profit participation
What is the Business Opportunity?

- Not a loan or equity!
- A good idea is necessary but not sufficient
- True innovation can take a long time to move from idea to lab bench to production and to the customer
  - Risky as an investment
What is the Business Opportunity?

Innovation is expensive and may fail, but a focus on the end use from the beginning is vital

– An early business plan is NOT required for SBIR, but a commercialization focus is a must!
History of SBIR Program

- 1982 - Congress passed the Small Business Innovation Development Act
- 1986 - Reauthorization
- 1992 - Congress extended SBIR and created STTR
- 2000 - Renewal until 9/30/08
- 2001 – STTR renewal until 9/30/09
- 2012 – Renewal until 2017
**Three Phases of STTR**

- Cooperative R&D between small business and research institution
  
  **Phase I**
  - Awards up to $150,000 for up to one year
  - Explore scientific, technical, and commercial feasibility of an idea or technology

  **Phase II**
  - Awards up to $1 M for two years
  - R&D work performed and commercial potential considered

  **Phase III**
  - Non-STTR funding to move from lab to market
SBIR/STTR "Innovation" Model

PHASE I
Feasibility Research

PHASE II
Research towards Prototype

PHASE III
Product Development to Commercial Market

Private Sector Investment/Non-SBIR Federal Funds (before/during/after!)

Federal Investment

Taxes
SBIR/STTR Differences

- **SBIR**
  - 11 agencies participate
  - Two-thirds (minimum) of funds spent inside the company
  - One-third spent on outside consultants or resources
  - SBIR is 2.7% of external R&D budget –in FY 13

- **STTR**
  - 5 agencies participate
  - Company performs at least 40% of work
  - Research institution performs at least 30% of work
  - STTR *set-aside percent* was increased to 0.35% for 2012 and 2013, and will increase to 0.4% for 2014 and 2015, and to 0.45% for 2016 and thereafter and Ph II up to $1M in 2011
  - Allocation of Rights agreement required
  - Phase I term is up to one year
  - Topics may be limited, different cycle than SBIR
Eligibility for SBIR/STTR

- American-owned, independently operated
- For-Profit business fewer than 500 employees
- The Principal Investigator is employed by the business over 50% time (SBIR)
- Research space must be available to and under the control of the SBIR grantee for the company’s portion of the proposed project
STTR Eligibility Issues

- Principal researcher need not be employed by small business

- Company size limited to 500 employees (no size requirements for the non-profit)

  • Research Institution must be in U.S.
  • All work done in the U.S.
STTR Principal Investigators

- PI can be at research institution for NASA, HHS/NIH, DOE, some DOD missions
- NSF and some DOD missions require PI to be at company (but NSF permits co-PI)
- DOE – small company must supervise the project even if the PI is at the research institution
Participating Federal Agencies

Eleven SBIR agencies and five STTR agencies:

- Department of Agriculture
- Department of Commerce
- Department of Defense - also STTR
- Department of Education
- Department of Energy - also STTR
- Department of Homeland Security
- Health and Human Services - also STTR
  - National Institutes of Health
  - Health Care Financing Administration
- Department of Transportation
- Environmental Protection Agency
- National Aeronautics and Space Administration - also STTR
- National Science Foundation - also STTR
Agency SBIR/STTR Differences

- **Contracting Agencies**
  - Agency establishes plans, protocols, requirements
  - Highly focused topics
  - Procurement mechanism for DOD and NASA
  - More fiscal requirements

- **Granting Agencies**
  - Investigator initiates approach
  - Less-specified topics
  - Assistance mechanism
  - More flexibility

**DOD**     **HHS/NIH**
**NASA**    **DOC**
**EPA**     **DOT**
**ED**

**HHS/NIH**
**DOE**
**NSF**
**USDA**
**ED**

* Awards Grants and Contracts
They’re all just a little bit different …
Agency SBIR/STTR Differences

- R&D Topic Areas
- Dollar Amount of Award (Phase I and II)
- Receipt Dates / Number and Timing of Solicitations
- Proposal Review Process
- Proposal Success Rates
- Type of Award (Contract or Grant, or both)
- Many other details:
  - Accounting issues
  - Profit or fee allowed
  - Phase I to Phase II gap funding
  - Payment types and schedule
Useful Websites

- http://www.sbir.gov/

- http://www.zyn.com/SBIR/
  - Solicitation News
  - Sign up for Zyn's SBIR Gateway Insider
  - Agency schedules at http://www.zyn.com/sbir/scomp.htm
    • Out to early 2014

- http://sbir.us/schedule.html

- http://gram.eng.uci.edu/~top/sbir.htm#SBIR_SCHEDULE
Recent Change: Small Business Company Registry

• SBC information, tracking ownership and affiliation requirements for all companies applying to the SBIR or STTR program.

• All applicants to the program are required to complete their registration at SBA’s Company Registry prior to submitting an application.
Small Business Company (SBC) Registry

• The SBC will report and/or update ownership information to SBA prior to each SBIR or STTR application submission.

• The SBC will also be able to view all of the ownership and affiliation requirements of the program on the Company Registry site.

• Completed registrations will receive:
  – a unique SBC Control ID
  – a pdf file to be used for submissions at any of the 11 participating agencies in the SBIR or STTR programs
Change Under Discussion

• SBIR Commercialization Benchmark
• Comment period 8/8/13-9/9/13

• “A minimum commercialization rate and associated activity related to it are to be measured in the aggregate across all agencies.”

• “SBA is making the rule retroactive in applying the benchmark to what a company did up to 10 years previous!”
A Few Questions?

Next: New York State and Regional Resources
Federal and State Funding Opportunities

- Identification of opportunities
- Sources of funding that supports innovation
  - SBIR/STTR
  - NYSERDA
  - Federal Laboratory Consortium (FLC)
Regional Innovation Specialist Program

• Innovation services and programs
  – Assistance accessing NYS resources

  – Small Business Innovation Research (SBIR)

  – Solutions Forums (AM&T in April 2014)
    • Portal for resource identification
    • Grassroots referral network
Innovation Resources in NYS

- NYS Division of Science, Technology and Innovation

- NYSTAR administers the following state programs:
  - Centers of Excellence (COEs)
  - Centers for Advanced Technology (CATs)
  - Regional Technology Development Centers (RTDCs)
Two NYS Centers of Excellence in CNY Region

The Center of Excellence in Small Scale Systems Integration and Packaging at Binghamton focuses on development of new electronic applications including small scale systems design, development, prototyping, process development, and manufacturing for the microelectronics industry.

- The Center of Excellence in Environmental Systems labs and research facilities for the performance of cutting edge research and development in environmental systems engineering.
Four Other NYS Centers of Excellence

- Bioinformatics & Life Sciences at Buffalo
- The Infotonics Technology Center of Excellence in Photonics & Microsystems, Canandaigua
- The Center of Excellence in Nanoelectronics at Albany
- The Center of Excellence in Information Technology (IT) on Long Island
Centers for Advanced Technology (CAT)

http://esd.ny.gov/nystar/CentersforAdvTechnology.asp

• Program Purpose

• The CAT program was created in 1983 to facilitate the transfer of technology from New York’s top research universities into commercially viable products produced in the private sector

• University-industry collaborative research and technology transfer in commercial relevant technologies

• Technical assistance to businesses, research support!
Centers for Advanced Technology (CAT) in Region

- Center for Life Science Enterprise - Cornell University
- Integrated Electronics Engineering Center - Binghamton University (IEEC)
- CASE (Computer Applications and Software Engineering) Center - Syracuse University
NYS Centers for Advanced Technology (CATs)

- City College of New York - CUNY CAT in Photonics Applications
- Center for Advanced Materials Processing - Clarkson University
- Center for Advanced Technology in Telecommunications (CATT) - Polytechnic Institute of New York University
- Center for Advanced Information Management – Columbia University
NYS Centers for Advanced Technology (CATs)

- Center for Automation Technologies and Systems - Rensselaer Polytechnic Institute
- Future Energy Systems - Rensselaer Polytechnic Institute and Cornell University
- CAT in Medical Biotechnology - SUNY at Stony Brook
- Center for Advanced Technology in Biomedical and Bioengineering - University at Buffalo
NYS Centers for Advanced Technology (CATs)

- Center for Emerging and Innovative Sciences (electronic imaging) - University of Rochester
- Center for Advanced Ceramic Technology - Alfred University
- CAT in Nanomaterials and Nanoelectronics (CATN2) - University at Albany
NYSERDA

- New York State Energy Research and Development Authority (NYSERDA) is a public benefit corporation created in 1975

- NYSERDA aims to help New York meet its energy goals:
  - reducing energy consumption
  - promoting the use of renewable energy sources
  - and protecting the environment
http://www.nyserda.ny.gov

Phone: 1-866-NYSERDA or (518) 862-1090

• Mission:

• “NYSERDA strives to facilitate change through the widespread development and use of innovative technologies to improve the State’s energy, economic, and environmental wellbeing”
Current Initiatives

• New York Battery and Energy Storage Technology (NY BEST)

• Consortium/Clean Air Interstate Rules (CAIR)

• Biomimicry - A Technique for Adapting Design Strategies from Nature for New Improved Products

• Biomass - Programs and Resources
Regional Resource – Best Place to Start*

- “Helping Manufacturers Plan, Perform, Profit & Grow”
  - 59 Court Street, 6th Floor, Binghamton, NY 13901
    Phone: 607-774-0022

- Mike Meador
Regional Resource: Services

- Pre-seed Startup Planning
- Innovation and Prototype Development (moving into manufacturing)
- Business Assessments
- Strategic Planning
- Project Management
- Supervisory and Workforce Training
- ISO & AS Quality Systems
- Sales & Marketing Assistance
- Lean Enterprise
- Process Improvement
- Succession Planning
Regional SBIR Services

- Strategies for approaching SBIR/STTR
- Coaching on licensing, proposal writing, NYS resources
- Proposal review before submission
- Transition coaching:
  - Phase I > Phase II
  - Phase II > Phase III
- Advice on improvements for a rejected proposal
Questions