



RMC SMALL BUSINESS COMMITTEE BREAKFAST MEETING

WHAT IS THE SBIR/STTR PROGRAM? HOW IS IT CHANGING?

Presented by:

**Mike Anderson & Laurie Wilson
Tech BizSolutions, Inc. & PBC, Inc.**



WHAT IS THE SBIR/STTR PROGRAM?

- 3 Things to Remember Today
 1. Where the program came from & why
 2. The program will continue to grow
 - a) Creates Jobs
 - b) Enables New Technologies
 - c) Provides Economic Development
 3. Complex demands on Small Business –
The “Rat Maze”

HISTORY SBIR/STTR PROGRAM

- Started as a pilot program at the NSF in 70's
- 4 Legislative acts govern SBIR existence & execution
 - The Small Business Innovation Development Act of 1982
 - The Small Business Research and Development Enhancement Act of 1992
 - The Small Business Innovation Research Program Reauthorization Act of 2000
 - The National Defense Authorization Act of 2012

HISTORY SBIR/STTR PROGRAM

- STTR Program History
 - Established Small Business Technology Transfer Act of 1992
 - Re-Authorized until 2001 by the Small Business Reauthorization Act of 1997
 - Re-Authorized until 9/30/09 by the Small Business Technology Transfer Program Reauthorization Act of 2001
 - Re-Authorized thru FY2017 by the 2012 Defense Authorization Act

HISTORY SBIR/STTR PROGRAM

- Early 70's – Rust Belt diminishing on world market
- President Nixon & Democratic Congress ask:
“What are we getting for our federal investment in R&D?”
- 1973: President Nixon directed NSF to program
“Research Applied to National Needs” or RANN
- RANN
 - Proposals from Private Sector Firms
 - 10% from Small Business (later changed to 12.5%)
- Venture Capital in Development or Existing Product Sales

HISTORY SBIR/STTR PROGRAM

- NSF
 - Roland Tibbetts – 1975 was NSF's Administrative Officer of RANN
 - 1976: Advocated increasing NSF share of funds to innovative, technology based small businesses
- NSF adopted this philosophy in 1977
 - 42 Phase I awards of \$25,000 ea.
 - Follow-up Phase II's issued to ½ of these the following year for up to \$200,000 ea.



HISTORY SBIR/STTR PROGRAM



- Early Success Story (1979 – 2nd solicitation)
 - Software – sort words alphabetically
 - Machine Intelligence Corp \$25K Phase I
 - Received \$200K Phase II
 - Robotics company bankrupt in 1982
 - PI (Gary Hendrix) & 4 others form Symantec with remaining SBIR funding
 - Product generates \$50M revenue – helps Symantec grow
 - Today Symantec is \$2 B revenue & 7200 employees



HISTORY SBIR/STTR PROGRAM

- Small Business enthusiastically received NSF's program
- Lobby
 - Other agencies to follow NSF's lead
 - Congress
 - Executive Branch

HISTORY SBIR/STTR PROGRAM

- White House conference on Small Business
January 1980
 - Evidence of declining share of federal R&D going to small business
 - Difficulty for small business to raise capital (period of high interest)
 - Indications that small business fertile source of job creation

HISTORY SBIR/STTR PROGRAM

- SBIR Development Act of 1982
 - 2 Broad goals:
 - More effectively meet R&D needs by utilizing small innovative firms
 - To attract private capital to commercialize the results of federal research
 - Agencies with R&D budgets > \$100M
 - 11 Agencies
 - 0.2% of budget set aside for SBIR (\$43M in 1983)
 - Set aside grew to 1.25% over first 6 years

HISTORY SBIR/STTR PROGRAM

- SBIR Development Act of 1982
 - Goals in the Act
 - Stimulate US Technological Innovation
 - Use Small Business to meet Federal R&D needs
 - Increase private sector commercialization of innovations derived from Federal R&D
 - Increase competition
 - Increase productivity
 - Increase economic growth
 - Foster & Encourage participation by Socially Disadvantaged Small Business Concerns

HISTORY SBIR/STTR PROGRAM



- Success Story (1987)
 - 2 Years after the Start of Qualcomm – first SBIR
 - 12 SBIR awards total
 - SBIR funding of \$1.6M
 - PI was Dr. Andrew Viterbi (CTO – 35 employees)
 - Viterbi Algorithm – basis for all cell phone communications
 - Today Qualcomm is >\$15 B revenue & 21,000 employees



HISTORY SBIR/STTR PROGRAM

- The Small Business Research and Development Enhancement Act of 1992
 - Doubled Set-aside to 2.5%
 - Explicitly Highlighted Commercial Potential
 - Extends program thru 2000
 - Establishes STTR program
 - Extramural R&D >\$1 Billion
 - Annual set-asides 0.05% in 1994
 - Annual set-asides of 0.1% in 1995
 - Annual set-asides of 0.15% in 1996

HISTORY SBIR/STTR PROGRAM

- The Government as Venture Capitalist - 1996
 - Harvard Professor Josh Lerner
 - 1435 SBIR Firms over 10 years
 - SBIR Firms have
 - Substantially Greater Employment
 - Greater Sales
 - Ability to obtain Venture Capital



HISTORY SBIR/STTR PROGRAM

- National Academies Committee
 - For Government –Industry Partnership
 - February 1998
 - Gordon Moore Chaired
 - SBIR enjoyed Strong support
 - In Government
 - In Country at large
 - Size of program requires research
 - for effectiveness
 - how to optimize
 - Emphasize Commercialization
 - Clarify how to evaluate across many agencies




HISTORY SBIR/STTR PROGRAM

- DOD Asks Moore Committee to evaluate DoD SBIR Program
 - 55 Case Studies (Largest review of program to date)
 - Contributes to achievement of mission goals
 - Significant programs not otherwise funded
 - Fast Track program encourages commercialization
 - Facilitates development and utilization of
 - Human capital
 - Technological Knowledge



HISTORY SBIR/STTR PROGRAM

- The Small Business Innovation Research Program Reauthorization Act of 2000
 - Reauthorizes program thru September 2008
 - Assessment requested by National Research Council for broader impacts of the program
 - Employment
 - Health
 - National Security
 - National Competitiveness
- 

HISTORY SBIR/STTR PROGRAM

- National Academies Assessment of the SBIR Program – 2008
 - 96% funding from 5 Agencies
 - DoD
 - NIH
 - NASA
 - DoE
 - NSF
 - SBIR is sound in concept and effective in practice

HISTORY SBIR/STTR PROGRAM

- National Academies Assessment
 - Generate Multiple Knowledge Outputs
 - Linking Universities to Commercial Markets
 - Increase Private Sector Commercialization of Innovations
 - A Commercial Enabler for Small Business
 - A small percentage of projects account for most success
 - SBIR is an Input, not a Panacea
 - Flexible adaptation to agency mission
 - Large Number of participating firms
 - Mixed support of minority businesses



SBIR TODAY

- Reauthorized for 6 years (FY2017) - National Defense Authorization Bill of 2012
- Increase SBIR allocation from 2.5% to 3.2% over several years
- Increase STTR allocation from 0.3% to 0.45% over six years
- Increasing VC participation to 25% for NIH, DOE & NSF and 15% for other agencies
- Shortening the time for final decisions to 90 days
- Shortening the amount of time between decision and release of funds with flexibility for the NIH
- Allowing agencies to use 3% of SBIR funds to administer SBIR programs

SBIR TODAY

- Signed by President Obama on 12/31/11
- Responsible Agency is the SBA
- SBA to translate Law into :
 - Regulations
 - Directives
- Drafts Proposed Rules &/or Amendments
 - SBIR to 2.6%, STTR to 0.35% & previous Regs – immediately
 - Size Regulations for Venture Capital – Proposed Regs within 120 days (end of April) with final rule by end of 2012
 - Policy Directive within 180 days (end of June)
 - 60 day Public comment on all proposed Rules/Amend.




SBIR TODAY

- Speed the Process
 - Reduce the time for final decisions to 90 days
 - Shorten the time between the final decision and the release of funds





SBIR TODAY

- Venture Capital
 - 2005:
 - 82% to later stage product development
 - 18% to early stage R&D
 - 2012:
 - Now up to 25% of SBIR awards can be made to companies controlled by VC money
 - 2 Ways to look at this:
 - More VC involvement in early stage R&D
 - Funneling of Federal SBIR funds to VC firms
- 

Government R&D Spending

- **Over \$70 billion of extramural R&D each year**
 - 5 agencies have the “lions share” of R&D budgets
 - DOD has over 50% of the R&D dollars
 - NIH has another 30%
 - NSF, NASA and DOE each have about 5%
 - **SBIR/STTR is authorized to reach 3.5% or approx \$2.6 billion annually**
- **Access, focus and difficulty depends on agency, branch and people involved**
- **Non-dilutive funding source**

SBIR Programs Eligibility

- **US based for Profit Business**
- **All Research/Development must be performed in the U.S.**
- **500 Employees or fewer, including affiliates**
- **The PI's primary employment must be with the small business at time of award**
- **Venture Capital/ownership**
- **Percent work required by small business**
 - **Phase I – 67%**
 - **Phase II – 50%**

SBIR Programs Overview

- Small Business Innovation Research (SBIR)
- SBIR -- 2.6% set aside from extramural R&D in 2012
- \$2.2 B from 11 Government agencies
- Three phases
 - Phase I (SBIR funded): up to \$150k over 6 mo.
 - Phase II (SBIR funded): up to \$1M over 2 years
 - Phase III: -- private sector or Government funds
- Companies can receive multiple awards (related topics)
- SBA deals with Size & Eligibility
- **SBIR does policy directives**
- SBIR/STTRs -- Remember that commercialization is an evaluation criteria and becoming more important

SBIR Program Specifics

- 11 agencies and they are **all different**
- Learn the specific agency nuances
- All work must be performed in U.S.
- Patent rights go to small business; Government has royalty free paid up license to use technology for their own purposes (Bayh-Dole Act, 1982)
- 33% of the awards go to first-time winners
- 70% of awards go to companies with 25 or fewer employees (40% under 10 employees)
- Phase I proposal success rates less than 15%
- Phase II proposal success rates less than 40%

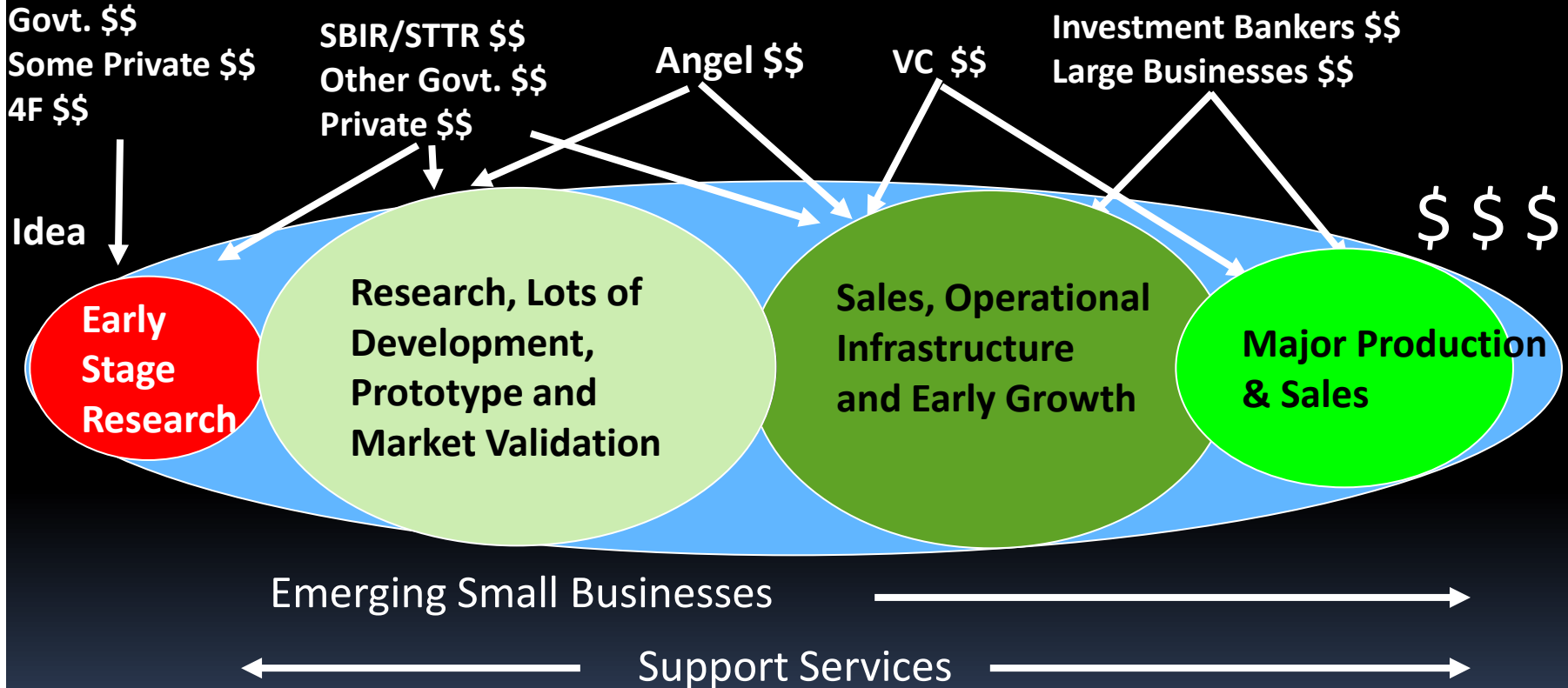
STTR Programs Overview

- Small business Tech Transfer (STTR) Programs
- For 2012 there is 0.35% set aside
- \$200M+ from 5 Agencies
- Requires Collaboration –
 - 40% - small business
 - 30% - research institute
 - 30% - anywhere
- Everything else the same as SBIR except --
 - Some agencies (DoD, NIH & NASA) allow PI to be from the research institute
 - 1 year performance on phase I

Accessing Government Funding

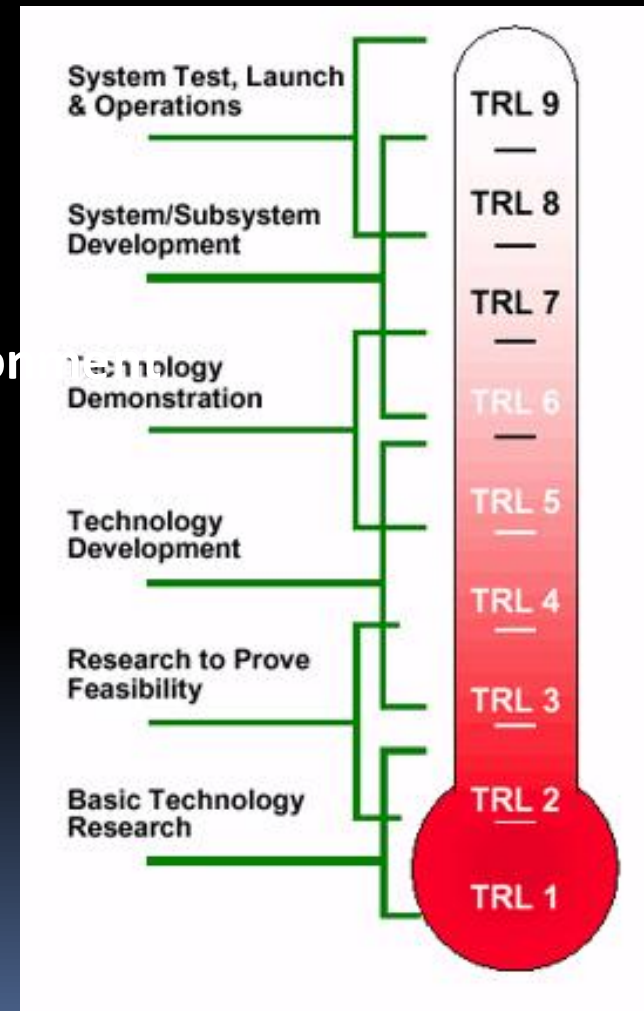
- **Identify the funding targets (Agencies)**
- **Identify potential commercial partners early on**
 - Support Letters
- **Learn the “game” rules – they are both dynamic and different for each agency/branch/division**
- **Marketing**
 - Pull vs Push
 - Why should the government fund it?
- **Build a Team**
 - Partners
 - Commercial
 - Technology
 - Marketing (Dawnbreaker, Foresight)
 - PI
 - Additional hires required
- **Develop proposal game strategy**

“Technology Relay Race” (each “runner” is essential)



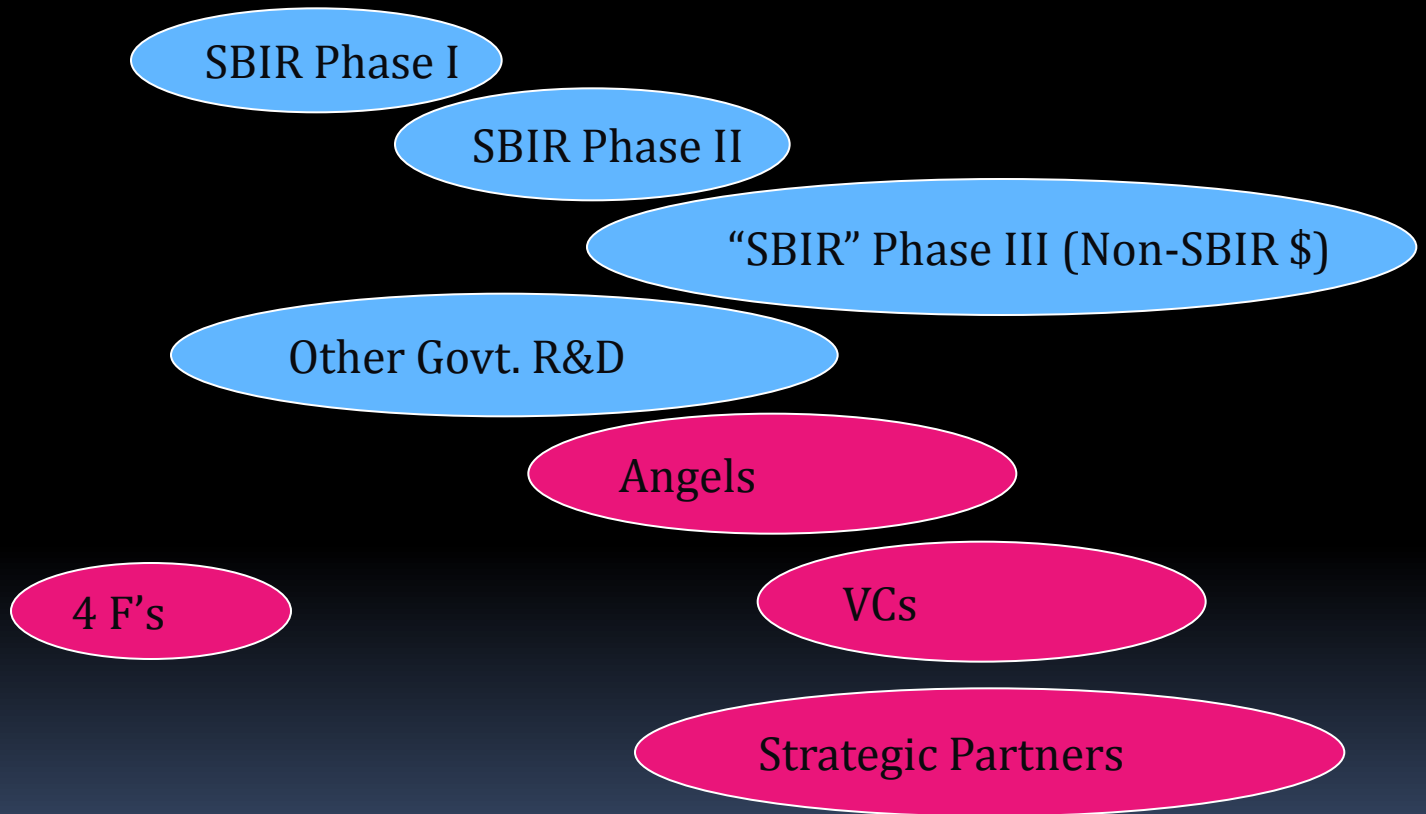
Technology Readiness Levels

9. Full production and distribution
8. End user test and evaluation
7. System prototype demo in operational environment
6. Prototype demo in relevant environment
5. Validation in a relevant environment
4. Validation in Laboratory
3. Proof of concept
2. Concept formulation
1. Basic principals observed



Favorable Funding Points

TRL levels → 1 2 3 4 5 6 7 8 9





Partners

Benefits to Small Business


- Access to more resources
- More market experience
- Access to Distribution Channels
- Experience in taking a prototype to Market
- Speeds Process

Benefits to Large Business

- Speed & Flexible Organization
- Access to new Technology
- Lower cost R&D
- Reduce risk of early development
- Continued Pipeline of new technologies



Partner Opportunities

- All Large Primes have interest in supporting SBIR to some extent
 - Example -
 - Large Prime sends out to small business Matrix of:
 - SBIR Topics
 - Topic Description/area of interest
 - Technical Point of Contact at the Prime
 - Follow with letters of interest & letters of support
 - Eventually a Partnering relationship
- 

High Tech Startups

- Long lead from startup to revenues
- High Risk –
 - Technical
 - Market
 - Management
- Significant “up front” funding required
- Technology push vs. market pull
- Perceived economic value proposition

Business Requirements Start-ups

- **Infrastructure becomes more complex as business grows**
- **Job Cost Accounting required**
- **More government scrutiny (DCAA)**
- **As the business grows, business acumen becomes increasingly as important as the technical concepts**

Business Challenges Start-ups

- **Founder is usually the Technical Expert**
- **Founder usually doesn't understand business infrastructure & operation**
- **Founder may not understand what is most advantageous to the business situation**
- **Founder usually doesn't understand accounting, let alone GAAP, the DCAA and other requirements**
- **It make sense to outsource these functions - ReliAscent**



ReliAscent – What We Do

- **All the business infrastructure from “Seed to Success”**
 - **Knowledgeable team members**
 - **Set-up companies**
 - **Proposal Preparation**
 - **Business Development**
 - **Contract Management**
 - **DCAA Interface**
 - **Set up compliant accounting systems**
 - **Business strategy and planning**
 - **Complete Back Office Services**
 - **Exit strategy**
- **20 years experience; national client base**



WHAT IS THE SBIR/STTR PROGRAM?

- 3 Things to Remember Today
 - 1.
 - 2.
 - 3.
- 



- ReliAscent is in business because we care.
- ReliAscent is passionate about helping Small Businesses succeed.

ReliAscent

5710 Flatiron Pkwy, Ste. B
Boulder, CO 80301
303-443-4440

Denver Office: I-25 & Colorado Blvd.

www.techbizsolutions.us