Air Force Small Business Innovation Research (SBIR) Commercialization Pilot Program (CPP)

A Strategy to Accelerate Technology Transition
Federally Mandated Program requiring 2.5% (SBIR) and .3% (STTR) of Air Force Extramural RDT&E Budget $\approx$ $370M (2010)$
Outline

• AF SBIR (Past)

• AF SBIR CPP (Present)

• AF SBIR (Future)

• Summary
AF SBIR/STTR Process Overview

**Annual Averages**
- Topics ~ 230
- Phase I Proposals ~ 3500
- Phase I Contracts ~ 500
- Phase II Proposals ~ 450
- Phase II Contracts ~ 270

**Annual Workload**
- Proposals Evaluated ~ 4000
- New Contracts ~ 800
- Continuing Contracts ~ 400
- Total Active Contracts ~ 1200
SBIR/STTR’s Role in Air Force Acquisition

Phase I
- Concept Feasibility
  - SBIR: $100K, 9 months
  - STTR: $100K, 9 months

Phase II
- Concept Development
  - SBIR: $750K, 24 Months
  - STTR: $750K, 24 Months

Phase III
- Production Insertion (Non SBIR Funds)

TRL 1: Basic Principles Observed
TRL 2: Concept Formulation
TRL 3: Proof of Concept
TRL 4: Breadboard in Lab
TRL 5: Breadboard in Rep Environment
TRL 6: Prototype in Rep Environment
TRL 7: Prototype in Ops Environment
TRL 8: System Qual
TRL 9: Mission Proven

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SBIR/STTR’s Role in Air Force Acquisition

Phase I
- SBIR: Concept Feasibility $100K, 9 months

Phase II
- SBIR: Concept Development $750K, 24 Months

Phase III
- STTR: Concept Development $750K, 24 Months

Technology Development

System Development & Demonstration

Production & Deployment

TRL 1: Basic Principles Observed
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AF Commercialization Pilot Program (CPP)

- Congressionally Mandated in Section 252a of the National Defense Authorization Act for FY06

- CPP

  - Focused on identifying and accelerating the transition of SBIR developed technologies, products, and services to Phase III and into the acquisition process; through the end of FY2009

- 1% of AF SBIR budget to administer Program
AF SBIR Transition
-- Root Cause of the Problem

• Symptoms
  – SBIR is taxing acquisition programs with very little return on investment
  – Program offices not fully engaged in SBIR processes
  – AFRL executes SBIRs as tech development with insufficient center coordination
  – AF not identifying major contractors or program office POCs to small businesses
  – AF does not follow thru after handing-off small businesses to major contractors
  – Major Contractors lack thorough SBIR internal management construct

Stakeholders are not aligned or adequately connected
Establishing Connectivity
-- SBIR CPP Core Transition Support Team

Air Force SBIR CPP Manager
Richard Flake

Tech Assistant
Kristy Westbrook

Workshop Coordination Team
Dr Lance Chenault
Rose Mediratta (OAI)

MacB Program Manager
Darryl Stimson
Technical Director
William Seward
Tech Assistant
Jami Wyatt

Process Analyst & Strategic Communications
Rich Jerdonek

ESC
PEO Support
Joe Minior
(Vacant)

AAC
PEO Support
Gavin Tovrea
Marsha Palmer

ASC
PEO Support
Walt Fenstermacher
Brett Miller

SMC
PEO Support
Dr Martin Kampe
Mike Bowker

ALC
Support
Walter Rakowski

Electronic Systems Center (ESC), Aeronautical Systems Center (ASC), Space & Missile Center (SMC), Air Armament Center (AAC), & Air Logistics Centers (ALCs)
SBIR Technology Transition
-- Process & Implementation Guides (Internal Alignment)
SBIR Technology Transition Plan (STTP)

• Transition Agents (TAs) identify SBIRs of “High Interest” via interaction with large participating companies

• Small and large company business arrangement initiates SBIR (STTP)
  – STTP identifies
    • All critical stakeholders (Roles & Responsibilities)
    • Current TRL/MRL of SBIR Phase II
    • Required TRL/MRL levels to transition
    • Financial Strategy
    • Identifies unfunded requirements
      – TAs assist with identifying necessary funding mechanisms

NOT a contractual document or an application for funds
Candidate Identification
-- DoD SBIR Phase II Projects

• PEO Technology Based Needs
  ➢ Data mine DoD SBIR databases
  ➢ Match to supply chain contractors
  ➢ Conduct one-on-one (B2B) interviews at Industry Interchange Workshops

• AFRL TD Technology POCs & Major Ktr candidates
  ➢ Case by case basis
  ➢ Candidates enter same transition process as PEO tech needs approach

• Industry Technology Based Needs
  ➢ AF/Navy relevant
    ➢ 3 Pilot Workshops in FY08,
    ➢ 7 in FY09/10, and
    ➢ 10 scheduled for FY10/11
Small Business & Major Industry
-- Competitive Position & Market Growth

Market Growth

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
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<tbody>
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Competitive Position

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- SBCs
- "Game Changing" Tech
- Other Stakeholders
- Financial Interest
- Other Stakeholders
- Major Defense Firms
- Tech interest

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Air Force SBIR CPP
-- A Virtual Organization

Core AF SBIR CPP Transition Support Team

COLLABORATIVE ENVIRONMENT

Industry Needs

PEO Needs

STTP

STMP

SBIR Phase II Portfolio

Total of 17 Major Contractors Participating

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SBIR CPP Operating Construct

<table>
<thead>
<tr>
<th>Pre-Concept Refinement</th>
<th>Concept Refinement</th>
<th>Technology Development</th>
<th>System Development &amp; Demonstration</th>
<th>Production &amp; Deployment</th>
</tr>
</thead>
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Phase III

Phase II

Phase I

SBIR Extension $

Industry Matching $

Planned PEO POM $

Technology Readiness Level (TRL)

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AF SBIR CPP
Strategic Planning Process

• The AF SBIR Program 5 years from now
  – Long term Objectives
    • Environmental Analysis
    • Short term objectives
      – Action Plans
        • Implementation
        • Roles & Responsibilities
        • Metrics
Topic Allocation & Execution (2010)

Research & Technology Development

System Development & Production

Test & Evaluation

Operation & Support

AFRL (51)

AAC (5)

ESC (15)

ASC (30)

46th TW (4)

AFFTC (4)

704th TG (4)

WR-ALC (4)

OC-ALC (4)

O-ALC (4)

F-35 (25)

SMC (40)

NWC (2)

24 Topics

167 Topics

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AF SBIR/STTR Process Overview

**Topic Generation**
- Topics are generated through internal processes across AF (PEOs, TDs, ALCs, & Test Centers)
  - Major contractor input is highly encouraged
    - Directly to AF Transition Agents (TAs)
      - TAs take to Chief Engineers for consideration
      - Virtual corporate IR&D
        - Helps mitigate “High Risk” development

**Topic Solicitation**

**Proposal Submission**

**Evaluation**

**Award**
Topic Allocation?

<table>
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<tr>
<th>ASC/J SF</th>
<th>Test &amp; Log Centers</th>
<th>SMC</th>
<th>AAC</th>
<th>ESC</th>
<th>Total</th>
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<tr>
<td>$4,348</td>
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<td>$5,729</td>
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CPP SBIR funds **leverage more than 6 to 1** of actual and planned funding.
Summary

• We are making a difference

  • Establishing & implementing processes to align & connect stakeholders

  • Establishing clear lines of communication between all stakeholders

  • Focusing the SBIR program on Air Force Tech-Based Needs

• Next steps can make these differences significant!

• Bottom Line – The Air Force’s new strategy is increasing the positive affects of the AF SBIR program on

USA’s NATIONAL SECURITY