

# ***Headquarters U.S. Air Force***

---

*Integrity - Service - Excellence*

## **Technology Transition and Acquisition Excellence: Taking it to the Next Level**



***The Honorable Ms Sue Payton  
Assistant Secretary of the Air Force  
(Acquisition)***



# ***AF Technology Transition***

**U.S. AIR FORCE**

---

- **Technology transition: the use of technology in military systems to create effective weapons and weapon support systems\***
- **New Goal: S&T community with MAJCOMs & Programs of Record focus on transitioning technology to affordable products to address Warfighter needs**
- **Several programs and processes transition technology to address Warfighter needs**
  - **Advanced Technology Demonstrations (ATD)**
  - **Advanced / Joint Concept Technology Demonstrations (A/JCTD)**
  - **Independent Research and Development (IRAD)**
  - **Small Business Innovation Research program (SBIR)**

\* Definition from *Manager's Guide to Technology Transition in an Evolutionary Acquisition Environment*, 31 Jan 03, Defense Procurement and Acquisition Policy Office of the Under Secretary of Defense



# AF SBIR Transition/Success Stories

## ... commercialization spin-offs

U.S. AIR FORCE

### Oxygen Sensor



**TauTheta Instruments, InterSpace, Physical Sciences**

**Objective:** Develop an on-line oxygen sensor to determine the oxygen content of the air above the fuel in aircraft fuel tanks (C-17)

**Commercial Use:** To be adapted by large airliner manufacturers

### Command and Control (C2) of Airlift Assets



**ConnectedWireless Corporation**

**Objective:** Develop more effective C2 of strategic airlift and refueling aircraft in remote areas

**Commercial Use:** Company has become a fast growing innovator in supply chain management of hardware and software systems.

### Infrared (IR) Focal Plane Array

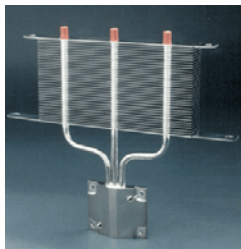


**Fermionics Corporation**

**Objective:** Improve semi-conductor quality to in-turn improve performance of IR Focal Plane Arrays for numerous AF applications such as Space Based IR System (SBIRS)

**Commercial Use:** detectors used for medical imaging and the short-wave arrays are applied to paper automation machines

### Heat Pipe Wick Structure



**Thermacore International, Inc.**

**Objective:** Develop compact and innovative cooling system for electronic components

**Commercial Use:** Thermacore's technology is found in almost all laptop computers sold today and has been used successfully to cool many other types of electronics.

### Piezoelectric Vibration Dampening Material



**Active Control Experts**

**Objective:** Develop material that would dampen the vibration in turbine engines

**Commercial Use:** Licensed the technology to K2, a snow ski manufacturer that now sells the Merlin IV, made out of that exact material, for about \$750 a pair

### New Coating Process Protects B-2 Engines From Ice Damage



**Microphase Coatings, Inc.**

**Objective:** SBIR- developed coating technology works to dramatically reduce ice ingestion in B-2 engines.

**Commercial Use:** Considering transfer of technology to other aircraft that present less demanding flight environments



U.S. AIR FORCE

# *Why is the AF SBIR Program Important?*

- **AF SBIR program is the largest of the DoD agencies (approximately \$340 million)**
  - **SBIR provides a rich source of technological innovation in a wide array of technology areas**
  - **Serves as potential feeders for follow-on Critical Experiments and Advanced Technology Demonstration Programs and to tech efforts focused on solving near and mid-term Product Center technology challenges**
- **Small Businesses**
  - **Hold 41% of US Patents**
  - **Obtain 13 times more patents per employee than large business concerns**

***AF SBIR Program: Facilitates Technological Innovation for the AF Science & Technology Base***



U.S. AIR FORCE

# *AF Commercialization Pilot Program (CPP)*

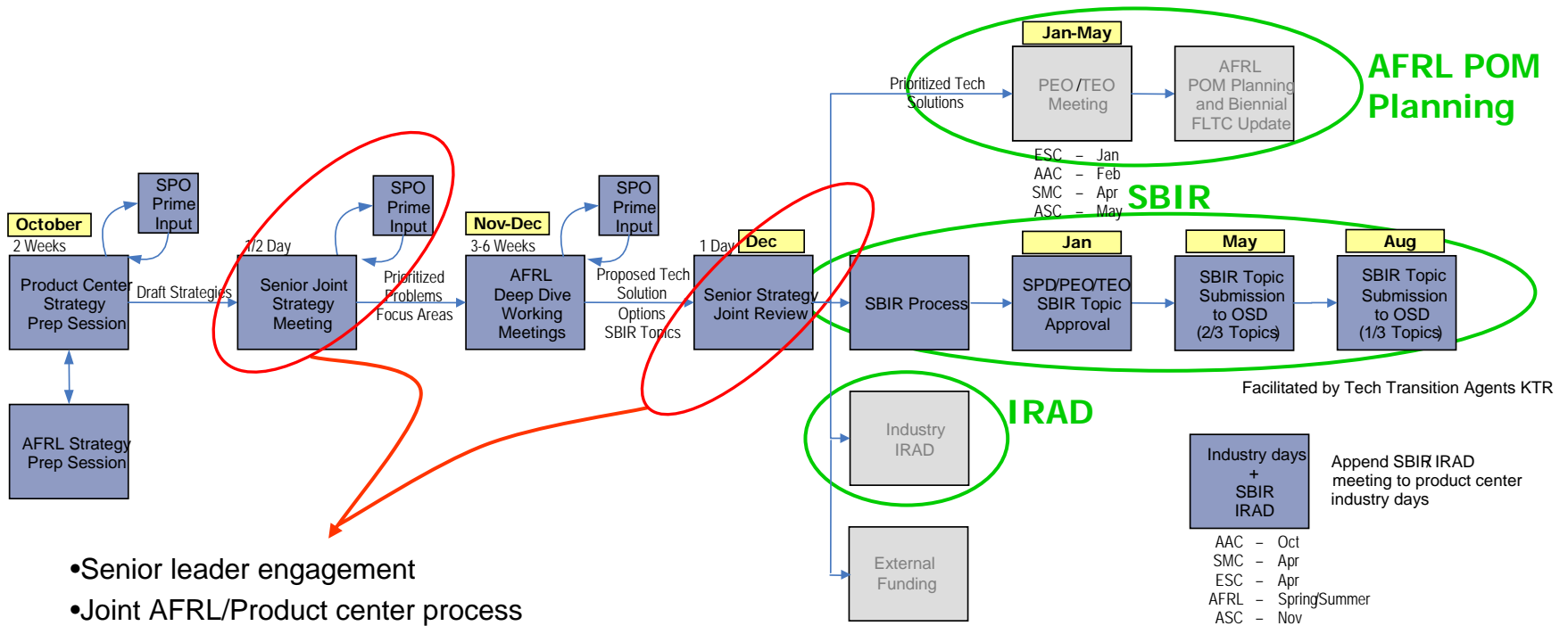
---

- **Air Force has sought to improve the effectiveness of the SBIR Program**
  - **2004 & 2005 legislative initiatives requested a percentage of SBIR budget for administrative functions**
  - **Congress approved a Commercialization Pilot Program (CPP) in 2006**
    - **Focused on accelerating the transition of SBIR developed technologies and products to Phase III and into the acquisition process**
    - **Permits 1% of each services SBIR budget to accelerate the transition of technologies and products**



U.S. AIR FORCE

# Air Force Product Center / AFRL Hunter/Gatherer Process



- Senior leader engagement
- Joint AFRL/Product center process
- Multi-directorate AFRL engagement
- PEO/TEO approval
- SPO Primes participation

- FY07 ESC/AAC/SMC process
- ASC slightly different process

Strategy Driven Process



U.S. AIR FORCE

# ***AF SBIR CPP Focus (Transition Support)***

---

- **AF hired SBIR contractor support personnel to facilitate transition**
    - **Embedded at Product Centers, JSF and F-22 SPOs**
    - **Used to gather PEO's technology based needs**
      - **Facilitate “match.com” SBIR workshops with primes and small businesses**
      - **Work with local AF SBIR Program Managers**
      - **Assists in identifying SBIR Phase II programs with high probability of transitioning**
    - **Creating a “tool box” of small business assistance instruments**
      - **Mentor-Protégé and Manufacturing Technical Production Programs, etc**
-



**U.S. AIR FORCE**

# ***AF SBIR CPP Focus (Transition Support)***

- **Supporting Product Center/AFRL technology needs gathering process**
  - **More strategic SBIR topic generation process with closer ties to acquisition community and prime contractors**
  - **Future SBIR topics solving stated Product Center tech needs facilitates technology transition**
- **Supporting SBIR technology interchange workshops with each Product Center**
  - **Provides “match.com” service between Product Center, Primes, and SBIR small businesses**
  - **Identification of SBIR Phase II efforts directly associated with Product Center’s technology based needs**
  - **Assisting in identifying SBIR Phase II programs with high probability of transitioning**
  - **Tracking and recording all SBIR product transitions, compiling a list of the projects commercialized and publishing success stories**
  - **Air Force acts as “Honest Broker”**





U.S. AIR FORCE

[www.sbirsttrmall.com](http://www.sbirsttrmall.com)

For additional information about the AF SBIR Program contact:

Mr. Charles M. Plant, Jr., AFRL/XRS, (937) 656-4091, [charles.plant@wpafb.af.mil](mailto:charles.plant@wpafb.af.mil)

Mr. Stephen Guilfoos, AFRL/XRS, (937) 656-9021, [stephen.guilfoos@wpafb.af.mil](mailto:stephen.guilfoos@wpafb.af.mil)

**Air Force SBIR/SITR**

## VIRTUAL SHOPPING MALL

- OVERVIEW
- TECHNOLOGY MALL
- ELECTRONIC LIBRARY
- REPORT SUBMITTALS
- SCHEDULE OF EVENTS
- POINTS OF CONTACT
- NEWS/UPDATES
- GLOSSARY
- LINKS
- CONTACT US
- SMALL BUSINESS LISTING
- SMALL BUSINESS AREA
- SITR SOLICITATION
- CURRENT SBIR/SITR SOLICITATION

**WHAT'S NEW** [More...](#)

3rd Quarter 2005 SBIR Advantage Newsletter now in Electronic Library - 9/29/2005

Air Force SBIR 06.1 Topic Pre-Release Now Available - 8/15/2005

WELCOME TO AF SHOPPING MALL

SEE WHAT SENIOR AF LEADERS ARE SAYING

AF SHOPPING MALL DISCLAIMER

Enter your email to be added to our mailing list:

**DoD TECHMINTON**

Today's Small Business Technologies for Tomorrow's Missions

[Privacy and Security Policy](#)



U.S. AIR FORCE

# Conclusion

- Air Force has a record of successes
- Working better communication between product centers, warfighters, prime contractors, program offices and small businesses
- More focused direction of the entire SBIR program toward CPP model
- SBIR program is a valuable tool in meeting warfighter needs



***AF SBIR Program: Focused on Technology Transition***