Headquarters U.S. Air Force

Integrity - Service - Excellence

USAF Science, Technology & Transition

**Presentation to
NDIA S&E Conference
16 April 2008**

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(Science, Technology and Engineering)

Agenda

- **AF S&T Overview**

- **National Imperatives**

- **The AF Transition Program**
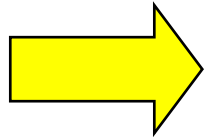
- **AF Transition Policy**

- **Summary**

AF S&T Overview

- AF executing $1.7B core in FY08 with 2,200 Scientists & Engineers in 10 core technical areas

- FY09 budget on Hill is $2.1B, increasing focus on:

  - AF Tech Vision
  - Basic Research
  - MANTECH
  - Cyber
  - Defensive Counterspace
  - Directed Energy
  - Revolutionary Propulsion
  - Thermal Management
  - Alternative Energy
  - Composites
  - Sense & Avoid for UAVs

- Improving Tech Transition is 1 of 5 guiding principles for AF S&T

  - SAE Commitment, OSD Initiatives, and JCTDs changes within AF
  - Organizing to align R&D development to 3 AF priorities, and tech transition efforts to 20-year AF roadmap

- Imperative for AF S&T tech transition to be synergized and leveraged with other tech transition efforts

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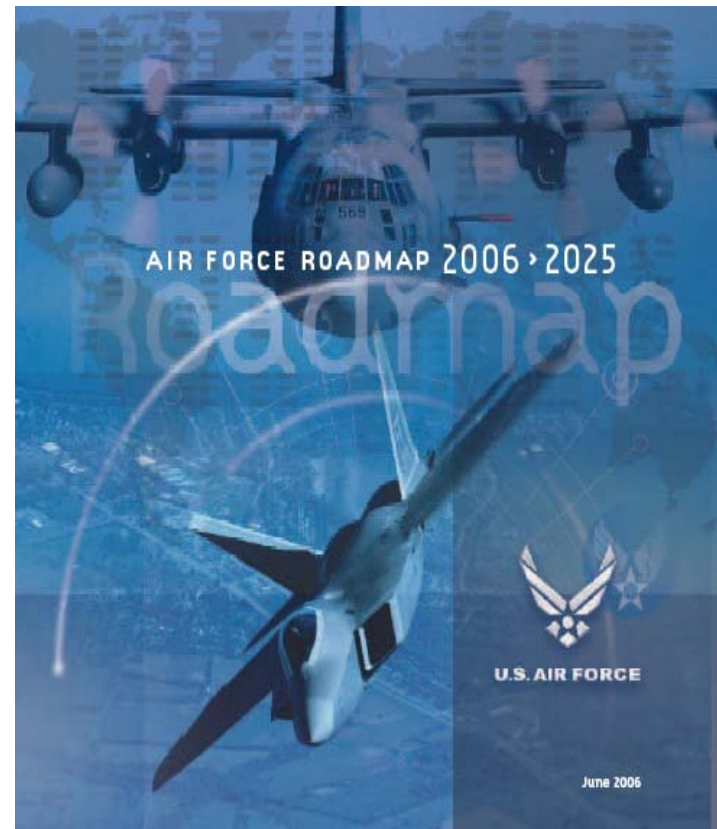- **Summary**

Winning the Current War

- The Nation must maintain technological superiority to win the GWOT
  - Winning the GWOT is the top priority of the AF
  - Terrorists exploit available technology faster than we can adapt and field ours
  - The AF leverages over $200M per year in transition assistance programs aimed at rapid technology transfer
  - *Effective* transition of technology is needed to maintain technology superiority and win the GWOT

Winning the Next War

- History has shown that Nations fail without modern militaries
  - Modernization is one of the top 3 priorities of the USAF, second only to GWOT and people
  - The AF has a 20-year modernization roadmap
  - The AF will spend over $15B in non-system specific managed 6.3/6.4 tech development over next 20 years
  - *Efficient* transition of this technology is a key enabler to AF modernization success and National Security

AIR FORCE ROADMAP 2006 > 2025

Roadmap

U.S. AIR FORCE

June 2006

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AF Tech Transition Program

Cohesive Tech Transition Policy (SAE)

R&D Strategic Plan
(AQR, AFMC & AFSPC)

Development Planning
(AFMC, AFSPC)

IRAD
(Industry)

AC/JCTDs
(OSD & Various AF PEs, ~$130M/yr)

AF CSB
(Chief Eng)

ManTech
(AQR PEM, PE0603680F, ~$40M/yr)

CP3
(AFRL S&T PEs, ~$5M/yr)

Lifecycle Processes (D&SWS)
(SAE & AFMC/CC)

WRAP
(AQX PEM, PE0203761F, $15-30M/yr)

RCO
(SAF/AQ)

DAC
(AQP, Various PEs, ~$10M/yr)

SII Fund
(SECAF)

SBIR/STTR
(AF RDT&E PEs, ~$370M/yr)

AFRL ATDs
(S&T PEs, ~$125M/yr)

TTI, QRF, FCT, RR/NS, RRTO
(OSD & Various AF PEs, ~$5M/yr)

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AF Transition Policy

- Tech transition office created on Air Staff to coordinate myriad of policy, processes & programs across AF

- Developing AF R&D policy for tech development *and* transition

- Key linkages to systems engineering policy for system developer insertion planning and corporate AF configuration control

- Policy recognizes differences in transition for air, space and cyber domains and adjusts for differences

- Tailored transition plans applied to achieve desired end-state for type of tech transition (to warfighter, to prime, to subtier) and life-cycle insertion point

- Tech transition requires risk identification, management, and acceptance by the customer and leadership
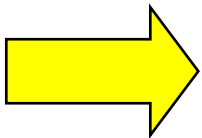
Full spectrum of tech transition across the life-cycle including policy, people and resources

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Summary

- Technology transition is a key enabler to winning the GWOT, while preparing to fight and win the next war

- Technology transition program consists of multiple programs, processes and overarching policy

- Tech Transition office developing policy that aligns the right programs/processes to the right domain and end-state

Transition Technology

- **Stand-up AF Technology Transition office**

- **Small Business Innovation Research (SBIR) Commercial Pilot Program (CPP) implementation**

- **Management/coordination of AF Joint Capability Technology Demonstrations (JCTDs)**

- **Policy for S&T Advanced Technology Demonstrations (ATDs)/ JCTD transition to acquisition**

- **Policy/coordination of lab urgent needs (Core Process 3) with AF Rapid Response Program**

- **Clearinghouse for Quick Reaction Funds, Technology Transition Initiatives, etc.**

- **Advanced development, prototyping, and risk reduction BA 4 initiative**

Successful Transitions

- **Certified 50/50 blend of Fischer-Tropsch alternative fuel on B-52**

- **Provided PNT support to SOCOM Joint Precision Air Drop System**

- **Demonstrated Automated Air Refueling for ACC**

- **Completed all TACSAT-2 S&T experimental objectives for USSTRATCOM**

- **Transitioned Angel Fire into a USMC Operational Assessment for IED detection**

- **Deployed Spiral 2 of PANACIA to NASIC and the 480th MASINT Cell**

- **Inserted adaptive optics technology at Starfire and began transition to MSSS for AFSPC**

- **Successfully tested Focused Lethality Munitions technologies and transitioned to Small Diameter Bomb Program**