

# 2005 REQUIREMENTS SYMPOSIUM



**BREAKOUT TOPIC:  
BORESIGHT EQUIPMENT**

**542d  
Combat Sustainment  
Group (CSW)**

**Mary Stevenson, Program Manager**



# Overview

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- Brief Program / Issue Description
- Current Status of Program / Issue
- Acquisition & Sustainment Strategy
- Program Requirements - Program Requirements Roadmap
- Program Budget
- Program Challenges/Opportunities
- Areas / Issues Needing Improvement or Assistance
- Government Focal Points
- Summary



# Brief Program / Issue Description

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- Each MDS had developed “stove-piped” boresight equipment
- The F-15 and F-16 have very bulky and labor-intensive systems that are not interchangeable.
- In 1992 the Air Force participated in a tri-service program chartered to investigate commercial sources for upgrading boresighting systems and capabilities.
  - Army and Air Force originally pulled out due to technical non-deliveries and cost overruns
- Program results indicated that fast, accurate and reliable boresighting could be accomplished using “maturing” commercial technology
- In 1997 the Air Force approved Battlelab Initiative



# Current Status of Program / Issue

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- Backlog of Requirements
- Legacy systems suffering DMS and Obsolescence
  - Need sustainment capability
  - Most Common Challenges of the Legacy Equipment
    - Varying Calibration Cycles
    - Supply is Complicated
    - Size and Weight
    - Time Consuming
    - Meeting Accuracy
    - Specialized skill level required
- Air Force Battlelab Initiative recommendation accepted
- Successful testing of the proof of concept system
  - Baseline for new capabilities established



# Current Status of Program / Issue Measures of Merit



- **Goal 1: Determine if a CBS can boresight multiple systems on multiple aircraft**
  - Ability to boresight multiple systems on a single aircraft platform
  - Ability to boresight similar systems on multiple aircraft platforms
  - Examine additional aircraft in the USAF inventory for CBS application
- **Result: The potential for commonality in a multi-MDS AEF scenario does exist!**



# Current Status of Program / Issue Measures of Merit (cont.)

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- **Goal 2: Determine if a CBS can meet current weapon system boresighting requirements**
  - Show CBS can meet boresight accuracy requirements
- **Result: CBS demonstrated it could meet accuracy requirements of an aircraft!**



# Current Status of Program / Issue Measures of Merit (cont.)

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- **Goal 3: Determine if a CBS can reduce maintenance workloads over current requirement**
  - Familiarization and training of maintenance personnel
  - Time operations and analysis
  - Ease-of-use analysis and description
  - Maintenance surveys with analysis
  - Environmental testing data and analysis
- **Result: CBS demonstrated it was smaller, lighter and much easier to use and train on. Time to perform boresight confidence checks also reduced!**



# Current Status of Program / Issue Measures of Merit (cont.)

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- **Goal 4: Determine if a CBS can reduce the logistics footprint over current equipment**
  - Ease of transportability and mobility analysis
  - Logistics footprint analysis
- **Result: The CBS demonstrated successful transportation via airfreight, ground freight, palletized mobility containers, and commercial overnight delivery. In each instance it arrived undamaged and ready for use. Vastly easier to deploy!**



# Current Status of Program / Issue Measures of Merit (cont.)

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- **Goal 5: Determine if a CBS can enhance combat effectiveness over current equipment**
  - Deploy and employ during an AEF
  - Employ in a simulated nuclear, biological and chemical environment
  - Operations surveys with analysis
- **Result: CBS can be used in simulating operations of an NBC environment; is easily deployed to an overseas AEF; and can enhance combat effectiveness!**



# Current Status of Program / Issue Measures of Merit (cont.)

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- **Goal 6: Determine if a CBS can reduce the life cycle cost over current equipment**
  - Technical and cost data analysis for a CBS
  - Equipment calibration data and analysis
  - System reliability data and analysis
  - Training analysis
  - Life cycle cost analysis (including ROI)
  - Examine potential usage of CBS within test and test areas
- **A CBS could offer significant cost savings in the full and open competition process!**



# Acquisition & Sustainment Strategy



- **Seek a system which can demonstrate multi-platform capabilities, offer field level technical data, and determine**
  - Suitability for field use
  - Improved set-up time
  - Deployment capability
  - Organic calibration capability
  - Ease of use; setup; alignment
  - Improved weapons systems targeting accuracies; operator subjectivity removed
  - Reduced logistics footprint
  - Improved Life Cycle Cost
  - Reduced operator skill level
- **Market Research Questionnaire posted in FedBizOps – August 2005**
- **Request for Proposal - Dec 2005**
- **MAJCOM Review of Proposals/Source Selection – Feb 2006**
- **Contract Award o/a 30 April 2006**



# Program Requirements Roadmap

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- Contract for replacement system
- \$60-75M Procurement Budget, FYs 06-10
- Establish maintenance concept for support of replacement system
- Establish repair capability for legacy system repair/refurbishment in FY06
- \$1.34M Sustainment (O&M)



# Program Budget



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	<u>Acquisition</u>	<u>Sustainment</u>
FY 06	\$5M	\$15K
FY 07	\$10M	\$15K
FY 08	\$30M	\$844K
FY 09	\$20M	\$475K
FY 10	\$10M	\$TBD



# Program Challenges / Opportunities

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- DMS and obsolescence issues. Need repair solutions for legacy systems until replacement systems are fielded
  - Soliciting potential repair sources to support legacy and/or replacement system
- Lateral support becoming increasing more difficult. No one base has all of the equipment to boresight aircraft.
  - Soliciting for a replacement system



# Area / Issues Needing Improvement or Assistance



- **Calibration Cycles**
  - Approximately 21 pieces of required boresighting equipment each with short & differing calibration cycles (3 – 6 months)
- **Supply is Complicated**
  - 21 separate items / NSNs make up boresight system
- **Size & Weight**
  - Old system is huge - 21 Boxes=222 cubic feet!
- **Time Consuming**
  - Difficult to use. Boresighting takes 3-8 hours!
  - Training is both time and labor intensive
- **Training**
  - Skill level of the operator can be reduced
- **Accuracy**
  - Cross hairs – no 2 people see the same thing
  - Manual calculations can result in human error; subjectivity of operator readings
  - Charts – easily misread



# Government Focal Points

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- Mary Stevenson, PM, (478) 222-1869
- Chassi Melvin, Engineer, (478) 222-0146
- Richard Hagopian, Engineer, (478) 222-1960
- Jim Creel, Equipment Spec., (478) 222-1353
- Trish Wilson, Item Manager, (478) 222-1748
- Lauren Farrell, Contracting Officer, 222-1906
- Betty Miller, PMS Seller, (478) 222-1753
- Earlene Garrison, PMS Buyer, (478) 222-1715



# Summary



- MAJCOM wants replacement system yesterday!
  - And they want the sustainment capability in place the day before!
- An improved User-friendly system will net major savings in time and resources!