

84th Combat Sustainment Wing



U.S. AIR FORCE

Munitions Application of RFID

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Overview



84TH COMBAT SUSTAINMENT WING

- **RFID Program-1: APF**
 - **Background**
 - **Pros—Potential Benefits**
 - **Cons—Potential Pitfalls**

- **RFID Program-2: USAFE Sensor Tag Pilot**
 - **Background**
 - **Pros—Potential Benefits**
 - **Cons—Potential Pitfalls**

- **Way Ahead—*Information Needs for Decision***

- **Summary**

- **Questions**



APF Container Support



84TH COMBAT SUSTAINMENT WING

- **Purpose: Provide near real-time container visibility**

- **Initial Success (May 2007)**
 - Demonstrated for APF containers at M/V Pitsenbarger
 - Hardware and S/W capability established
 - 95% of 553 containers successfully interrogated with mobile reader on upload

- **Future Plans (FY08)**
 - MV Bennett & Pitsenbarger Reconstitution





APF Container Support *Pros & Cons*



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■ Pros

- Potential real-time asset visibility
- Consistent with eLog21 (automate process)

■ Cons

- Insignificant ROI to date
- Not integrated with CAS
- Battery issues
- Time to read tags: 3-5 minutes
- Readability of tags (30% success rate after 5-years at sea): based on M/V Carter download



USAFE Sensor Tag Pilot



84TH COMBAT SUSTAINMENT WING

■ Purpose

- Automate inspection vs. manual labor**
- Use existing technology/equipment**

■ Program Overview

- USAFE contract with Savi Technologies**
- Savi provides RFID tags/scanners to units/MAJCOM**
- SaviTag ST-656 for use with TEU containers (door tag)**



USAFE Sensor Tag Pilot

Pros - Potential Benefits



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- **Consistent w/ eLog21 (automate process)**
- **Improve Intransit Visibility**
 - **Improved accuracy & reporting (reduce human-error)**
 - **Reduce keystroke w/ auto-move/inventory**
- **Proven Technology**
 - **Various vendors and options**
 - **Improved status for better security**
- **Potential savings**
 - **Man-Hours to perform current inspection**



USAFE Sensor Tag Pilot

Cons – Potential Pitfalls



84TH COMBAT SUSTAINMENT WING

- **Potential Hidden Costs**
 - **Technology Refresh**
 - **Budgeting for ramp-up and lifecycle support**
- **Logistics**
 - **Supportability**
 - **Reliability**
 - No instantaneous upload -truck must stop at interrogator 3-5 min
 - **Maintainability**
 - **Infrastructure costs/improvements**
- **Unknowns**
 - **Actual time savings to field personnel**
 - **Integration with current IMS capabilities**



Way Ahead for Pilot Effort

Facts Needed for Decision



84TH COMBAT SUSTAINMENT WING

- **Review Other Technologies**
 - **Surface Acoustic Wave (Navy tests look promising)**

- **Conduct Objective Cost Benefit Analysis**
 - **Cost of “technology refresh” over lifecycle**
 - **Integration hurdles with existing IMS capabilities**
 - **Training requirements**

- **Test in Operational Environment (Scaled)**

- **Test in Shock Environment (transport issues)**



Way Ahead for Pilot Effort

Facts Needed for Decision (cont)



84TH COMBAT SUSTAINMENT WING

- **Evaluate “True” Cost Savings**
 - **Manpower savings to field (not marketing hype)**
 - **Maintenance & spares requirements**
 - **Tracking for situational awareness**

- **Identify Lifecycle Obsolescence Issues**
 - **Technology refresh**
 - **Diminishing sources**



Summary



84TH COMBAT SUSTAINMENT WING

■ APF

- 1. Initial use of RFID has demonstrated feasibility and revealed some pitfalls in the munitions application
- 2. Infrastructure must be developed to realize the vision of real-time in-transit visibility

■ USAFE Pilot

- 1. Demonstrates feasibility of automated environmental monitoring of munitions containers
- 2. Integration with CAS must be completed to automate munitions storage monitoring inspections
- 3. ROI analysis needed to justify continued interest



Questions



84TH COMBAT SUSTAINMENT WING

