Logistics 101 – Today's Battlefield Reality

21 March 2007

Todd Ostheller

AAI Corporation

AAI UAS Warfighter Support

Pioneer

- Max GW: 463 lbs.
- Max payload wt: 100 lbs.
- Endurance: 5 hrs

Shadow® 400

- Max GW: 447 lbs.
- Max payload wt: 66 lbs.
- Endurance: 5 hrs

Shadow® 600

- Max GW: 583 lbs.
- Max payload wt: 91 lbs.
- Endurance: 12-14 hrs

- Max GW: 375 lbs.
- Max payload wt: 65 lbs.
- Endurance: 7-8 hrs

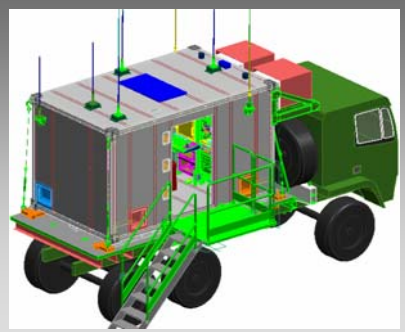
Aerosonde 4

- Max GW: 35 lbs.
- Max P/L wt: 7 lbs.
- Endurance: 10-12 hrs

G-MAV

- Max GW: 13 lbs.
- Max P/L wt: 2 lbs
- Endur: 0.7 hrs

ER/MP OSGCS / 5 Ton Truck



Next Generation Shadow

- Max GW: 625-700 lbs.
- Max payload wt: 110-225 lbs.
- Endurance: 6-10 hours

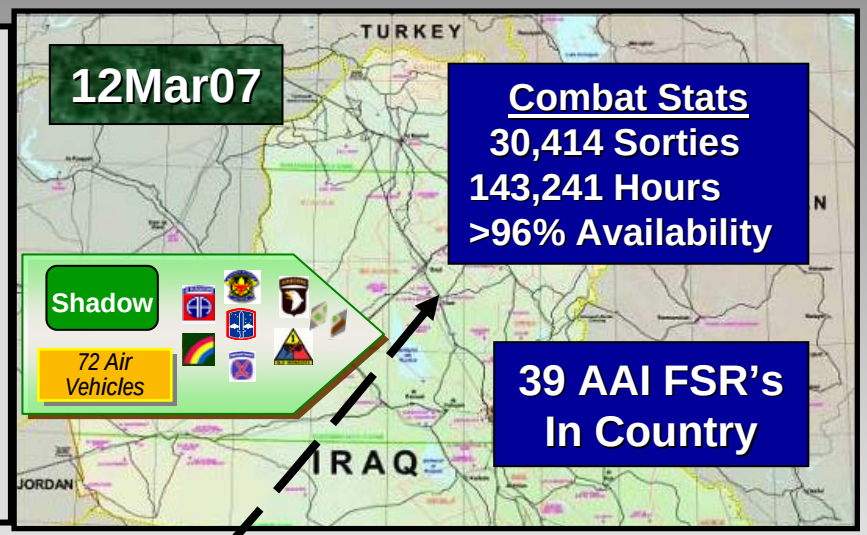
OAV-II

- Max GW: 172 lbs.
- Max P/L wt: 16 lbs.
- Endur: 2.5 hrs

Shadow® Tactical UAS

2006 Major Accomplishments

- Maintained combat system availability > 93%
- Reduced mishap rate by 59%
- Reduced system support costs by 25%
- Trained and fielded 19 new Shadow platoons
- Flew 70,000 combat flight hours in 2006
- Flew 15,000 combat missions in 2006
- Deployed first Shadow system to OEF



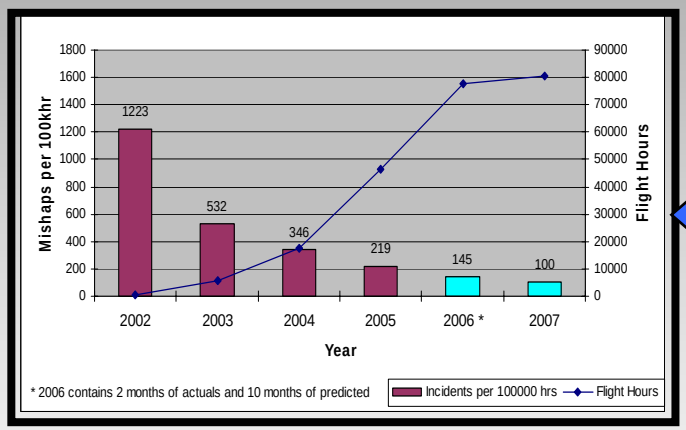
Factory Floor to OIF in Record Time

Top Operational Challenges

1. Increased OPTEMPO with additional surge
2. Limited bandwidth for UAS operations
3. Desire for increased situational awareness; convoy and force protection
4. Mixed airspace flight operations
5. Single fuel on the battlefield initiative
6. Integrated US Army UAS field support

Response to increased OPTEMPO

- ✓Expanded production facilities
- ✓Increased FSR training
- ✓Additional BIT team staffing

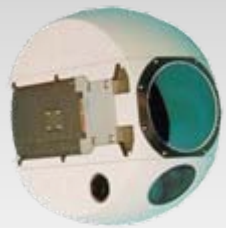


- ✓Development of predictive models
  - ✓Flight hours predictions
  - ✓Impact to Spares/Repair of Repairables
- ✓Reliability growth curve

- ✓Establishment of FRA in Balad, Iraq
- ✓PBL Contracting mechanism
- ✓Add'l in-country contractor support

Increased Situational Awareness

- Laser Pointer/Designator/Range Finder
  - Fielded Laser Pointer option to assist in identification of targets
  - Developing Integrated EO/IR payload with Laser Designator/Rangefinder
    - Improved Laser Guided weapons response times, reacting quickly to dynamic insurgent activities.
    - Payload combines Designator with Laser Range Finder (LRF) to improve Target Location Error (TLE)
  - Optical / IR performance maintained at high quality video in same payload as Laser Designator



One System® Roadmap

1996 - 2005

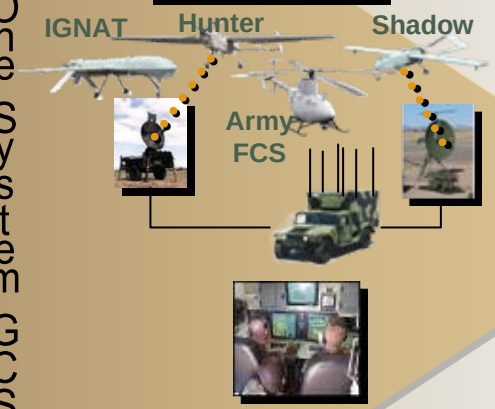
Ground Station

7 Configurations

- **Logistical requirements**
  (Manuals, Software Maintenance, PLL)
- **Multiple Training requirements**
- **Limited Situational Awareness**

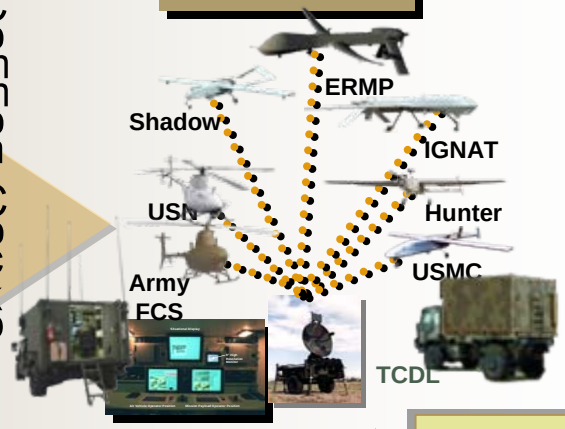
2006
Block I

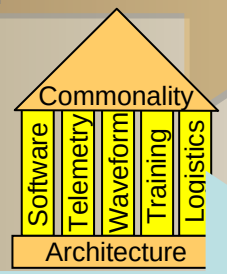
One System GCS



2007 – 2008
Block II

Common Cockpit





Commonality

- Common Cockpit Philosophy leads to:
  - Reduced logistical requirements
  - Common Training/Standardization
- Open ended architecture (accepts FCS)
- Maximizes situational awareness technology

Increased Operational Effectiveness Airworthiness

Cost Savings/ Avoidance

Remote Video Terminal

SA at Brigade

Weight: 350 lbs
Range: 40 Km

One System RV Terminal

SA at Platoon

Weight: 65 lbs
Range: 125 Km

One System RV Transceiver

Performance Based Logistics Support

"The Warfighter requires READINESS – not transactions"

PBL Phase I

May 2003 – Jan 2004 - Cost Plus Fixed Fee

Jan 2004 – Oct 2004 - Cost Plus Fix Fee with Incentives

- The Cost Plus phase's provide the opportunity to evaluate true cost and to determine the right incentives to support the Fixed Price phase.
- Provides the time to validate and verify the metrics and Data Collection processes.
- The key is the data collection and analysis.

SHADOW TUAS HAS USED A PHASED PBL IMPLEMENTATION STRATEGY

PBL Phase II

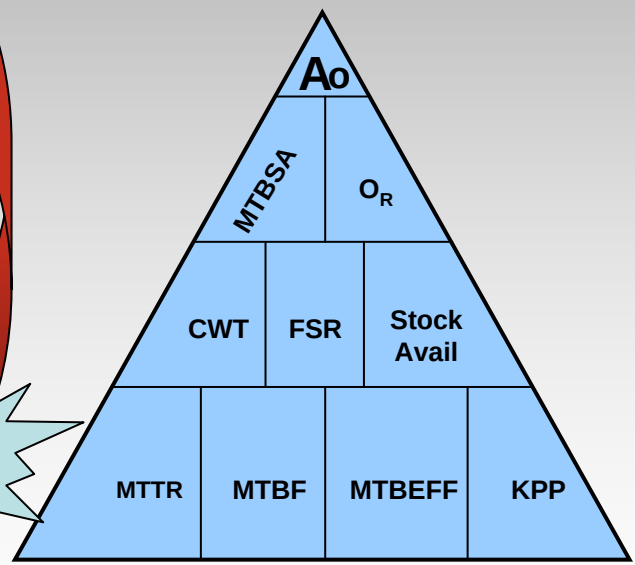
Oct 2004 – Sept 2007- Cost Plus With Incentives

PBL Phase III

Oct 2007 - Fixed Price, Performance Based, Award Term (With Performance Board)

- Better System Operational Readiness/Availability
- Increased MTBSA
- Reduced logistics footprint
- Higher overall system readiness levels

Full PBL



Logistics Performance Pyramid

The key is the validation of metrics with a verified data collection system

Reset/Repair of Repairables

- Reset/Repair of Repairables Initiatives
  - Completed lean manufacturing improvements in Hunt Valley factory.
  - Established partnership arrangements with US Army Depots
    - Tobyhanna Army Depot – Scranton, PA
    - Letterkenny Army Depot – Chambersburg, PA
    - Corpus Christi Army Depot – Corpus Christi, TX
  - “Super” FSR at FRA (Balad) for expanded repair capabilities.
  - Instituted CONUS EO/IR Payload repair facility in Rome, New York (Opened in June 2006)

OIF/OEF UAS Sustainment Plan

UAVS SSA/FRA Balad

- Monitors all UAV readiness in theater
- Ensures all repair parts ordered and coordinates all pick ups / deliveries / convoy transport
- Contractor Managed Spares on site with limited repair capability
- Informal cross system support naturally occurs at SSA/FRA