2007 Air Armament Symposium

AAC/XR
Linking Capabilities to Warfighter Needs

Armament Initiatives:
Just Over The Horizon

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Purpose

Provide industry partners insight into the near term Air Armament Center planned investments.
Historical Tech Transition

Example: J DAM

- XR Integrating Concept Study and Tech Demos
- Gulf War Generated Rqmt (1991)
- B-2 Drops 80 GBU-38s

- 3 Years from Identified Need to Program Start
- 5 Years from Technology Demonstrations
- 17 Years from XR Vision to B-2 Weapons drop
Opportunities for Industry

- Hard Target Defeat
- Time Sensitive Target Defeat
- Weaponization of Directed Energy Technologies
Opportunities for Industry

Hard Target Defeat

• Hard Target Void Sensing Fuze

• Boosted 2000 lb Penetrator

• Chemical Biological Agent Defeat

• Eglin Steel Producibility Enhancement

•Insensitive Munitions Improvements for Large Bombs
Hard Target Void Sensing Fuze

**Warfighter Benefit**

- Mitigate Intel Uncertainties
- Increased Weapon Effectiveness
- Higher Confidence Weapon/Target Pairing
- Reduces Re-strike Rate

**Attributes**

- Void Sensing
- Harder Target Survivable
- Increased Reliability
- Compatible with Inventory Penetrators (BLU-109, BLU-113)
- Aircraft Programmable

**Business Opportunities**

- Joint Capability Technology Demonstration
  - RFP Release Fall 07
  - Contract Award Spring 08
- System Development & Demonstration
  - FY10 POM submission
**Boosted 2000 lb Penetrator**

### Attributes
- Higher impact velocities
- 2000 lb class weapon
- Direct attack
- Blast/Frag Warhead
- Insensitive Munitions (IM) compliant

### Warfighter Benefit
- Increased Capability for 2000 class weapon
  - Increased Penetration or Standoff
  - Near 5000 lb class weapon effectiveness
- Compatible with multiple Platforms

### Business Opportunities
- Potential Technology Demonstrations, FY10
  - Studies/Analysis
  - Sled Testing
- Planned FY12 POM submission
- Independent Research and Development (IRAD)
Chemical Biological Agent Defeat (CBAD)

**Attributes**
- 2000 lb class weapon
- Penetrator Weapon
- Agent Defeat Payload
- Direct Attack Weapon

**Warfighter Benefit**
- Disrupts and Denies Enemy Access to Biological or Chemical Agent in a Hardened Target
- Reduces viable Agent Released from Target (reduced Collateral Damage)

**Business Opportunities**
- FY10 POM Submission
- IRAD
Eglin Steel Producibility Enhancement

Warfighter Benefit

- Harder Deeper Targets held at Risk
  - Tunnels
  - Bunkers
- Qualified and Fielded

Business Opportunities

Attributes

- Gravity-drop
- 5000 lb class
- Hard Target Penetrator
- Precision Guidance

- FY08/09 Producibility Enhancement Program
  - Refine/Document production process for ES-1
  - BLU-122 wall thickness
  - Leverage USA (Picatinny Arsenal) DOTC Contract
- FY10 POM submission
  - BLU-122 Follow-on Program
Insensitive Munitions (IM) Improvements for Large Bombs

Warfighter Benefit

- Increase weapon storage densities
- Decreased risk of sympathetic detonation, e.g. unplanned detonation

Attributes

- IM Improvements for Large Bombs compliance
- Maintain system lethality and initiability/ fuzing
- Maintain compatibility with existing guidance packages and tail kits

Business Opportunities

- FY10 POM submission
- IRAD
Opportunities for Industry

Time Sensitive Target Defeat

- High Speed/ Hypersonic Weapons
- Small Weapons
High Speed/ Hypersonic Weapons

**Warfighter Benefit**

- Rapid response from long ranges
- High Value/Time Sensitive Target Solution
- Operation in Anti-access Environments

**Attributes**

- High speed, Mach 3-5
- Hypersonic, Mach 5+
- 300 mi+ range
- Air-breathing engines
- Hypersonic Flight Demonstration (HyFly)
- RATTLRS

**Business Opportunities**

- High Speed/Hypersonic IPT
  - Potential Studies/Analyses
  - S&T programs
- I RAD
- Tech Maturity and Tech Transfer Timelines being assessed
Small Weapons

Warfighter Benefit

- Low Collateral Damage
- Deep Magazine/ High Loadout
- Moving Target Capability
- Urban and Difficult Terrain Operation
- Multiple Platform Delivery
  - Manned
  - Unmanned

Attributes

- 5-10Km effective range
- < 100 lb Class
- Low cost
- Mature Technologies
- Semi-Active Laser Seekers (current)
- Glide and Powered

Business Opportunities

- Potential Near Term Demonstrations
- Potential Next Generation Gunship Weaponization
- Potential Next Generation Multi-Use UAS Analysis of Alternatives - FY10
Opportunities for Industry

**Weaponization of Directed Energy Technologies**

- Airborne Tactical Laser Weapon
- Counter - Electronics J CTD
- Active Denial System
Airborne Tactical Laser Weapon

**Warfighter Benefit**

- Ultra-precision target engagement
- Speed of light engagement
- Reduced collateral damage
- Scalable effects
- Covert - Plausible deniability
- Improved ISR supporting BMC4I
- Encompasses entire kill chain

**Attributes**

- 100KW-class high energy laser
- Integrated in a multi-mission C-130 type airframe
- 10 Km+ effective range
- 20+ targets per mission

**Business Opportunities**

- Advanced Tactical Laser (ATL) Extended User Evaluation (EUE) FY08
- FY10 POM Submittal
- FY12 Projected Program Start
High Power Microwave (HPM) Counter-Electronics

**Warfighter Benefit**

- Selective target engagement
- Speed of light engagement
- Reduced collateral damage
- Scalable effects - Disrupt to Destroy

**Attributes**

- Packaged in inventory munitions mold line
- Services multiple targets
- Capability to selectively target infrastructure and communication node electronics

**Business Opportunities**

- RFI FY08
- Potential JCND FY09
- FY10 POM Submittal
- FY12 Projected Program Start
Active Denial System

Warfighter Benefit

- Improved force protection
- Provides non-lethal option
  - Repels Adversary Without Causing Injury
  - Selectively engage combatants
  - Determine intent
  - Defuse escalating situations

Attributes

- Repels Adversary Without Causing Injury
- Non-lethal engagement
- Long range
- Useful in multiple scenarios

Business Opportunities

- FY08-FY09 Trade Studies (BAA)
- Possible quick reaction procurements
- FY10 POM Submittal
## Projects POC

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*This is not intended to be a solicitation or announcement.*
Summary

Linking New Capabilities to Warfighter Requirements

- Hard target Defeat
- Time Sensitive target Defeat
- Weaponization of Directed Energy Technologies

Counting On Industry To Make Those Initiatives A Reality