



# ***Precision Fires Rocket and Missile Systems***

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Conference and Exhibition***

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***Recipients of the 2008  
William J. Perry Award***

***Any Warfighter - Anywhere - All The Time***





# PFRMS Systems at War



- All systems are supporting the Global War on Terrorism
- Currently supporting Operation Iraqi Freedom and Operation Enduring Freedom
- Performance is above Army Standards
- Launchers returning in excellent condition requiring only routine and minimal maintenance



**M270A1**  
98% Readiness Rate



**HIMARS**  
99% Readiness Rate

**GMLRS Unitary**  
1,124 Rockets Fired  
As of 5 Mar 09  
98% Reliability



**ATACMS**  
543 Missiles Fired  
As of 10 Dec 09  
98% Reliability



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# ***GMLRS-Unitary Rocket Usage in Theater***



**1,124 Total Rockets Fired As Of 5 Mar 2009**

*Who Shoots GMLRS-U:*

*US Army*

*USMC*

*UK*

*M270A1*

*M142*

*M270B1*

## ***US Army Missions***

*Who Requests GMLRS-U:*

*Army*

*USMC*

*Other*

*How GMLRS-U is  
employed:*

*Troops in Contact*

*Pre-Planned*

*Environments employed:*

*Urban/COIN*

*Other (TD/Test)*

Capability Gap: Persistent, responsive, all-weather, rapidly-deployable, long-range, surface-to-surface, precision-strike capability.

## **Description**

- GPS-Augmented Inertial Guidance
- 200lb-Class HE IM-Compliant Warhead
- Multi-Fuze Selection (Point Detonating, Delay, Proximity)
- 15-70km Range



## **Current Targets**

- Precisely Located/Mensurated Point targets
- Congested/Complex Urban Targets
- Targets in Areas Where Collateral Damage is of Concern

## **Effectiveness/Reliability**

- BDA Shows High Level of Effectiveness
- Rare Reports of Minor Collateral Damage
- Reliability of US Army Missions: 98.68%

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# ATACMS QRU Usage In Theater



543 Total Missiles Fired as of 10 Dec 2008

## Who uses ATACMS?

Army  
Marines Joint Operations  
USAF

## How ATACMS is Employed:

Time-Sensitive Targets  
Pre-Planned

## Employment Environments:

Initial OIF Conflict  
COIN



## Mission Process

- Target located by Multiple Sensors
- Target refined using Precision Strike Suite - Special Operation Forces or Mensuration via Rainstorm/Raindrop, etc.
- Passed to AFATDS for tactical fire control
- Launcher receives and executes mission



# *Launcher Theater Accomplishments*



- All FAL variants (M270, M270A1, M270B1 and M142) have supported GWOT operations
- Launchers variants currently support both OIF and OEF operations
  - M142s support OIF / OEF
  - M270B1s support OEF
  - M270A1s support OIF
  - M142s support OIF
- Launchers deployed in Theatre continue to perform above Army Standards
  - Operational readiness exceeds 97%
  - Reliability is over 350 hours between System Abort Failures
  - No maintenance issues
- M142 and M270A1 launchers returning from both Theaters are in excellent condition requiring minimal Reset

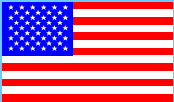

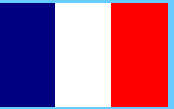




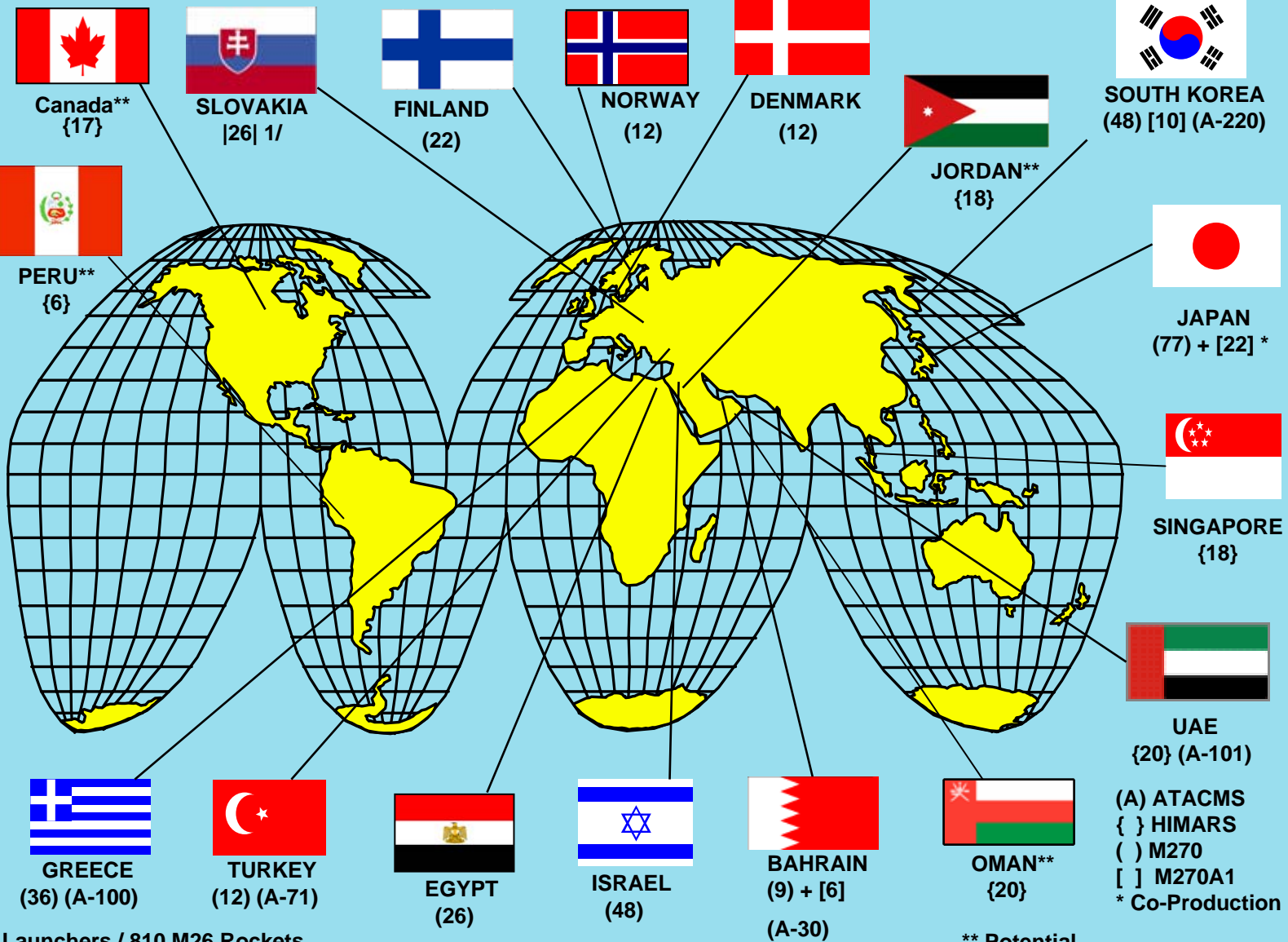


# MLRS Worldwide Third Party Sales



## MOU PARTNERS

-  US
-  UK
-  FRANCE
-  GERMANY
-  ITALY



(A) ATACMS  
 { } HIMARS  
 ( ) M270  
 [ ] M270A1  
 \* Co-Production



# ***The Future for Cluster Munitions***



**Requirement:** Suppress, neutralize, destroy various armored or soft, mobile or fixed, active or passive, precisely or imprecisely located, high-payoff area and point targets

## **Cluster Munitions Policy Memo** (19 Jun 08)

- After 2018, cluster munitions must not produce >1% UXO; limit will not be waived
- No differentiation between types of UXO (hazardous or non-hazardous duds)
- All cluster munition stocks that exceed operational planning requirements will be removed from the inventory as soon as possible, but not later than Jun '09

## **Self Destruct Fuze (SDF) Development and Performance**

- Previous UXO Requirement: <2% 20-60km; <4% <20km and >60km  
**Does not Comply with the new DOD Policy**
- GMLRS DPICM w/pSDF demonstrated "hazardous" dud rate of only 0.15%, overall UXO 3.7%:  
**Does not comply with the new DOD Policy**



# Inventory and Operational Risks



## Serviceable Rocket Inventory 2008-2019

2008		2019	
Munition	Available munitions	Range	Available munitions
M26 (DPICM)	360,192	32.5km	0
M26A2 (DPICM)	3,924	45.0km	0
M30 (DPICM)	1,914	70.0km	0
<b>M31A1 (Unitary)</b>	<b>204</b>	<b>70.0km</b>	<b>33,006</b>

**ZERO**

## Operational Risks

- GMLRS AWP production schedule may not provide sufficient numbers by 2019 to support COCOM operational plans
- AMSAA/ARL approved models for AWP technologies





# *Program Overview*



- Program composition
    - ACAT 1C with two variants
      - DPICM in Full Rate Production (FRP)
      - Unitary Completing LRIP headed to FRP Decision
    - Variants share documentation
      - APB
      - Common Funding (RDTE and Procurement) Lines
- 

## Second Order Effects

- Impact to APB
- Item C of Nunn-McCurdy ADM (April 2007)
- Future of DPICM Production
- Elimination of DPICM, impact on the USMC and FMS Customers



# ***AWP Performance Parameters***



- Meets DPICM ORD requirements in servicing targets
- Produce no residual cluster munition UXO
- Achieve required warhead IM rating
- Compatible with the M270A1 and HIMARS Launchers

# GMLRS System Description

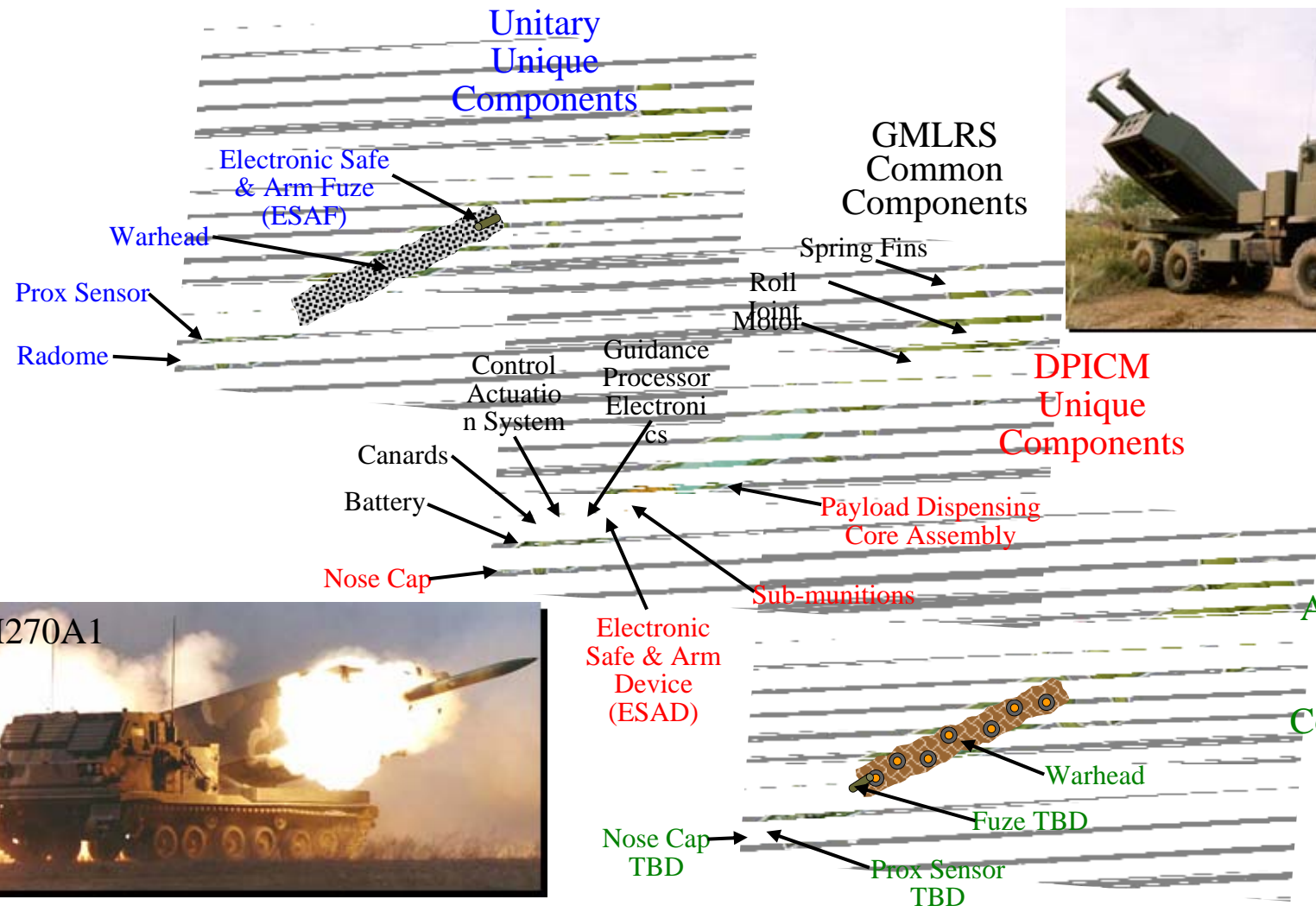
Unitary  
Unique  
Components

GMLRS  
Common  
Components



DPICM  
Unique  
Components

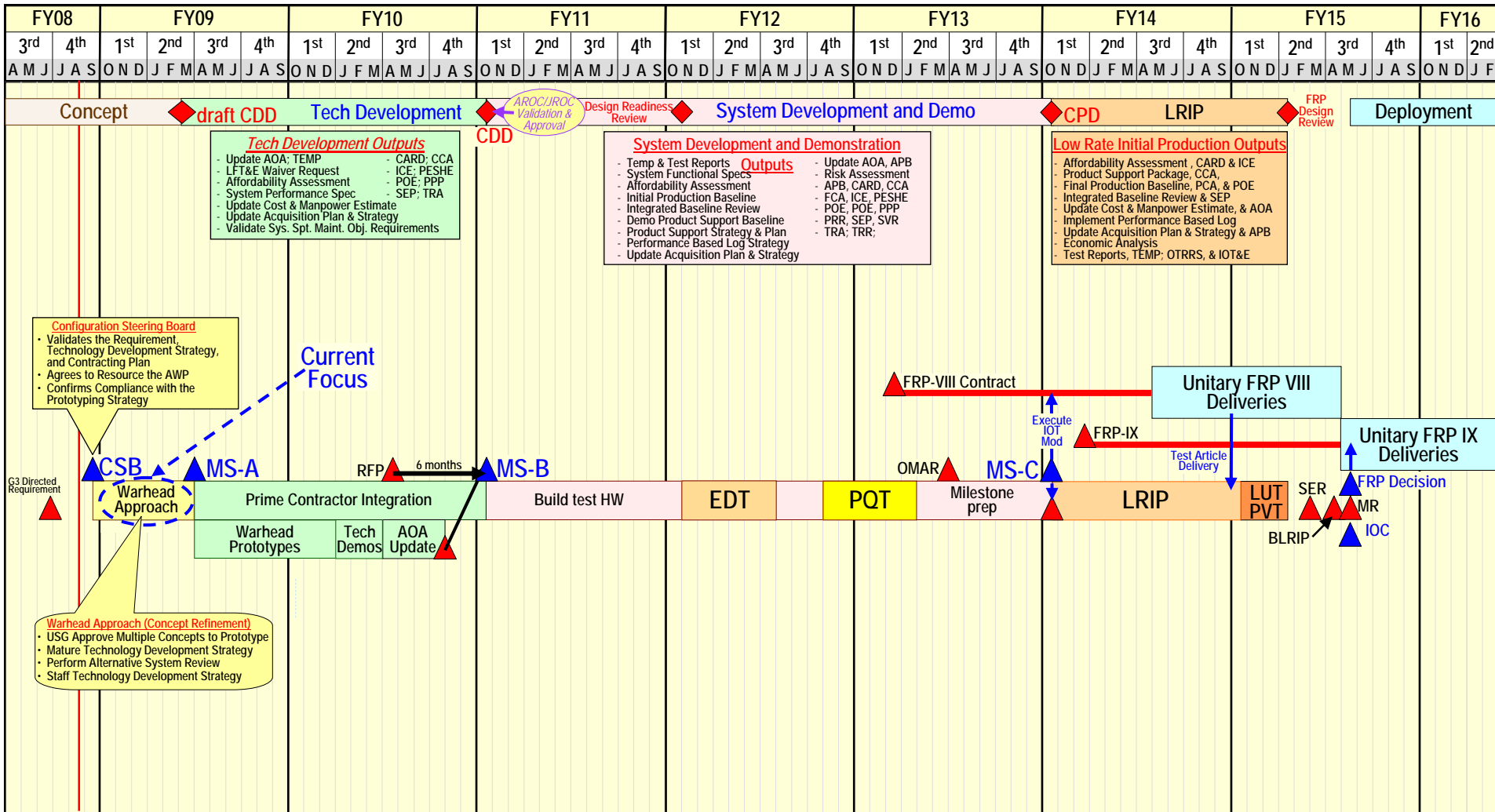
Alternative  
Warhead  
Unique  
Components



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# AWP Schedule Overview



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# ***Review of Eliminating DPICM***



- Current pSDF (nor DPICM) is not compliant with DoD cluster munition policy
- Must demilitarize all non-compliant DPICMs after 2018; cost TBD
- UAE DPICM Procurement in FRP 4
- USMC Unexercised DPICM Option in FRP 4

***Recommend Build Unitary in Lieu of DPICM FY09-FY13***



# *Questions?*