

Precision Fires Rocket and Missile Systems

New and Evolving Armaments and Subsystems for Future Conflicts



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Program Executive Office Missiles & Space



MISSION

To Develop, Field, and Sustain Missile and Space Systems for the U.S. Army, Joint and Coalition Warfighters that Provide a Decisive Battlefield Advantage

What We Do:

- Centralized Management for All Army Tactical and Air Defense Missile Programs and Selected Army Space Programs
- Full Life-Cycle Management of Assigned Systems
- World Wide Support of Fielded Weapon Systems
- Key Link Between the User and Tech Base

What We Manage:

- Eight Project Offices
- 3 Pre-MDAP, 14 ACAT I, 5 ACAT II and 11 ACAT III Programs
- International Cooperative Development Programs

VISION

To be a Highly Efficient, Effective, Agile, and Innovative Warfighter - Focused Organization for Developing and Sustaining Missile and Space Systems

Workforce:
Government ~1100
Support Contractors ~700

FY16 Appropriated Budget
~ 3.4B

FMS: Total Case Value \$43.2B,
39 Countries

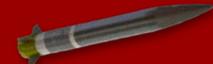
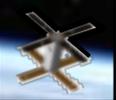
To Support the Warfighter



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Program Executive Office Missiles and Space Portfolio



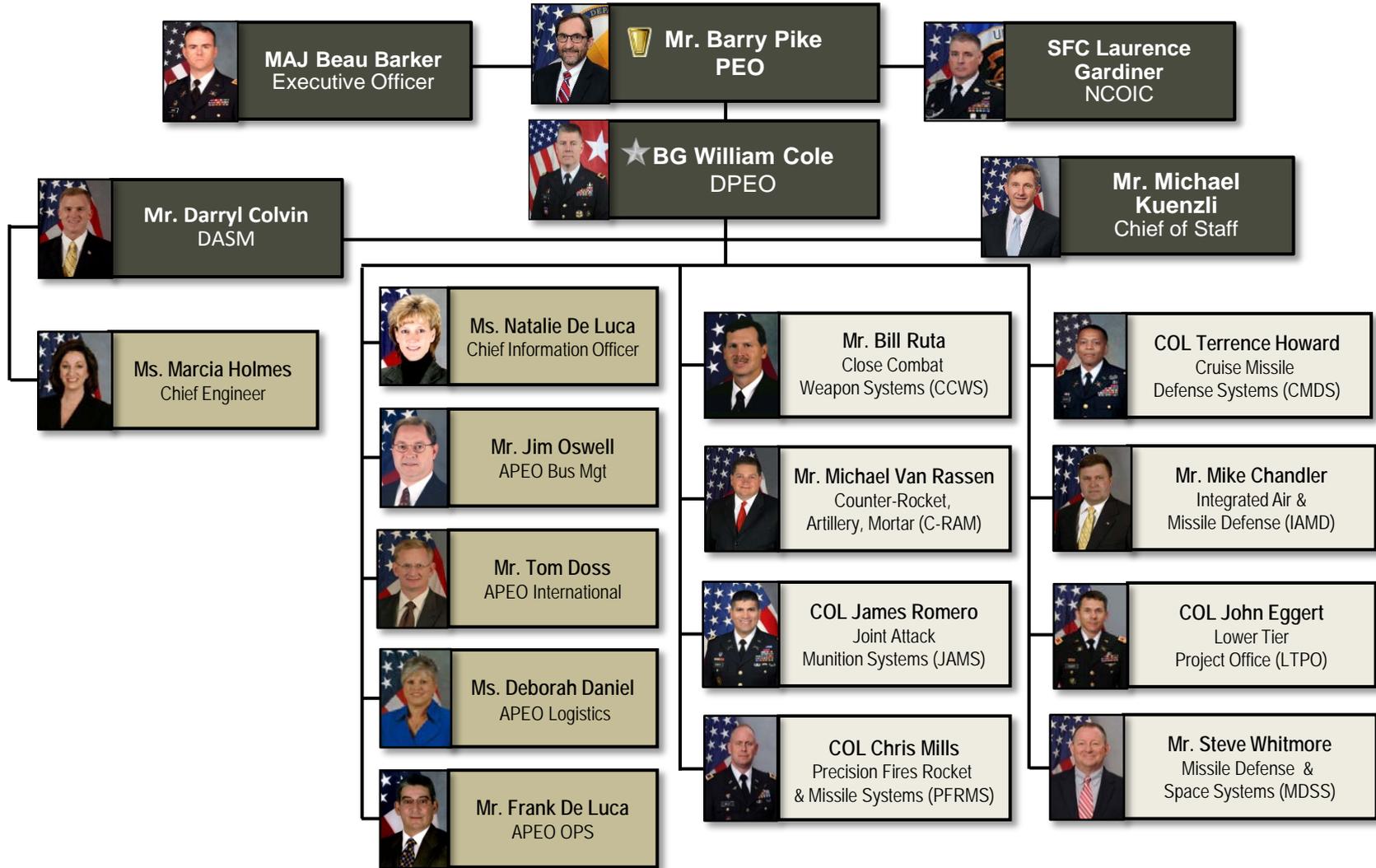
AVIATION	FIRES					MANEUVER	AIR DEFENSE & SPACE
<p>Joint Attack Munition Systems (JAMS)</p>	<p>Cruise Missile Defense Systems (CMDS)</p>	<p>Counter - Rocket, Artillery, Mortar (C-RAM)</p>	<p>Integrated Air & Missile Defense (IAMD)</p>	<p>Lower Tier Project Office (LTPO)</p>	<p>Precision Fires Rocket and Missile Systems (PFRMS)</p>	<p>Close Combat Weapon Systems (CCWS)</p>	<p>Missile Defense & Space Systems (MDSS)</p>
 <p>Hydra-70</p>	 <p>IFPC Inc 2-1</p>	 <p>C-RAM Intercept (LPWS)</p>	 <p>IAMD Battle Command System (IBCS) Engagement Operations Center (EOC)</p>	 <p>PATRIOT/ Ground Support Equipment</p>	 <p>Guided Multiple Launch Rocket Systems (GMLRS / U / AW)</p>	 <p>JAVELIN</p>	 <p>Medium Extended Air Defense System (MEADS)</p>
 <p>Joint Air-to-Ground Missile (JAGM)</p>	 <p>NASAMS</p>	 <p>RAM Warn</p>	 <p>Air and Missile Defense Planning & Control System (AMDPCS)</p>	 <p>Lower Tier Air Missile Defense Sensor (LTAMDS)</p>	 <p>Army Tactical Missile Systems (ATACMS)</p>	 <p>Tube-Launched, Optically-Tracked, Wireless-Guided (TOW)</p>	 <p>Joint Tactical Ground Station (JTGS)</p>
 <p>Small Guided Munitions</p>	 <p>Sentinel</p>	 <p>Forward Area Air Defense Command & Control (FAAD C2)</p>	 <p>A / B Plug & Fight Interface Kits</p>	 <p>PATRIOT Advanced Capability (PAC-3)</p>	 <p>Long Range Precision Fires (LRPF)</p>	 <p>Improved Target Acquisition System (ITAS)</p>	<p>THAAD & AN / TPY-2 Sustainment Management Office (T2SMO)</p>
 <p>HELLFIRE</p>	 <p>STINGER</p>	 <p>AN / TPQ-53</p>	 <p>Integrated Fire Control Network (IFCN) Relay</p>	 <p>PAC-3 Missile Segment Enhancement (MSE)</p>	 <p>High Mobility Artillery Rocket System (M142 HIMARS)</p>	 <p>Lethal Miniature Aerial Missile System (LMAMS)</p>	<p>Space Directorate</p>
 <p>Launchers</p>	 <p>Avenger</p>	 <p>AN / TPQ-50</p>			 <p>Multiple Launch Rocket System (M270A1 MLRS)</p>	 <p>Precision Fires Manager (PFM)</p>	<p>SMDC Nanosatellite Project (SNaP-3)</p> 
		 <p>AN / TPQ-37</p>				 <p>Containerized Weapon System (CWS)</p>	 <p>Kestrel Eye (KE) Microsatellite</p>

Always On Target!

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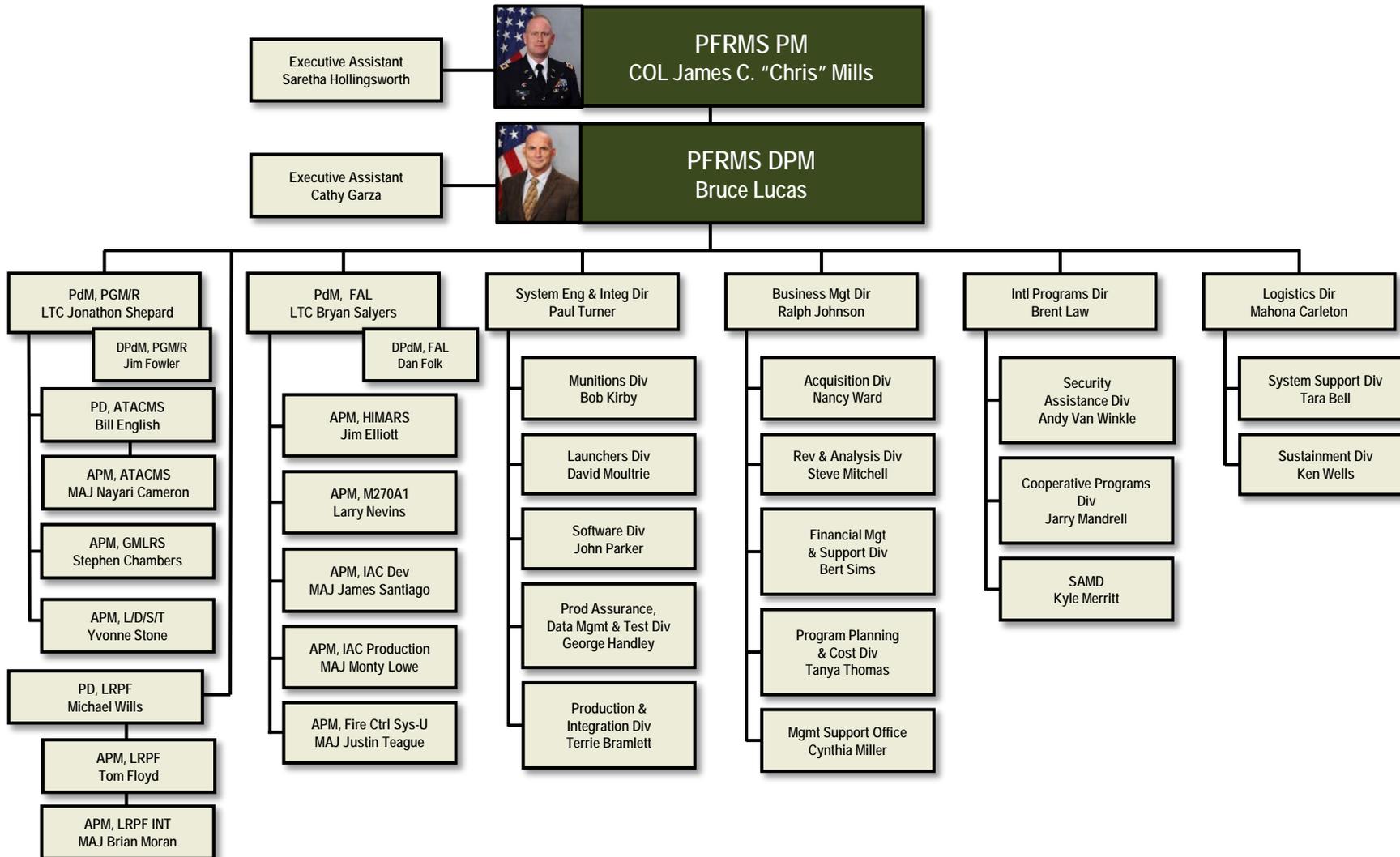


Program Executive Office Missiles and Space Organization





PFRMS Project Office





VIDEO



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Precision Fires Rocket & Missile Systems



Through effective program management and a professional workforce; develop, produce, field, and sustain the Precision Fires family of launchers and munitions to fulfill the long-range artillery requirements of the U.S. Warfighter and Allies

What We Do:

- Centralized Management for all Army Multiple Launch Rocket System Launcher platforms and associated Munitions suite
- Full Life-Cycle Management of Assigned Systems
- World Wide Support of Fielded Weapon Systems
- Key Link Between the User and Tech Base

What We Manage:

- Two Field Artillery Rocket / Missile Launcher Platforms
- Three MLRS Rocket and Two Missile Programs
- MLRS International Cooperative Development Program
- Fifty-five active FMS Cases with total case value of \$1.28B
- Japanese Fire Control and Rocket Co-production

Vision:

Be a values based team providing the best long-range precision fires capability to the U.S. Warfighter and Allies

Workforce:
 Military 8
 Government 219
 Support Contractors 82
 Managing FY15
 President's Budget
 \$675M
 FMS Undelivered Value
 \$212M, 11 Countries
 To Support the Warfighter



PFRMS Launcher Platform Overview



M270A1 Multiple Launch Rocket System (MLRS)



Program Description:

- Combat-proven tracked launcher
- Mounted on modified Bradley M993 chassis
- Lightly Armored / man-rated 3 Man crew cab
- Rapidly deployable via C-17 and C-5
- Operable 24/7 in all weather and visibility conditions
- Fires entire MLRS / ATACMS Family of Munitions
- Carries 2 Pods of 6 Rockets or 1 Missile each
- Uses Improved Fire Control System (IFCS)
- On-board Self Reload / Self Location systems

M142 High Mobility Artillery Rocket System (HIMARS)



Program Description:

- Combat-proven wheeled MLRS
- Mounted on modified M1140A1 five-ton FMTV chassis
- Armored / man-rated 3 Man crew cab
- Rapidly deployable via C-130 and C-17
- Operable 24/7 in all weather and visibility conditions
- Fires entire MLRS / ATACMS Family of Munitions
- Carries 1 Pod of 6 Rockets or 1 Missile
- Uses Universal Fire Control System (UFCS)
- On-board Self Reload / Self Location system

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PFRMS Munitions Overview

GMLRS DPICM (M30)

- Range: 15 – 84 km
- Payload: 404 M101s
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: 3,936
- Expenditures: US: 0



2004

GMLRS Unitary (M31 / M31A1)

- Range: 15 – 84 km
- Payload: 200lb-Class High Explosive / Blast Fragmentation
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: 17,184
- Expenditures: 3,141 (US: 1,255; USMC: 1,069; UK: 817)



2005

GMLRS Alternative Warhead (M30A1)

- Range: 15 – 84 km
- Payload: 200lb-Class High Explosive with Penetrators
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: N/A
- Expenditures: N/A



2015

Practice Rocket (M28A1 / M28A2)

- Range: 8 – 15 km
- Payload: Inert
- Guidance: None
- Quantity Produced: 110,748
- Expenditures: US: 42,000+



2003

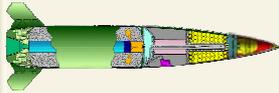
ATACMS Block I (M39)

- Range: 25-165 km
- Payload: 950 M74s
- Guidance: Inertial
- Quantity Produced: 1,650
- Expenditures: Desert Storm: 32 / OIF: 379



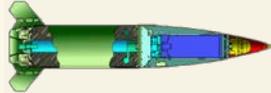
ATACMS Block IA (M39A1)

- Range: 70-300 km
- Payload: 300 M74s
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: 610
- Expenditures: OIF: 74



ATACMS Quick Reaction Unitary (M48)

- Range: 70-300 km
- Payload: WDU-18 WHD/ FMU-141/B PD Fuse
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: 176
- Expenditures: OIF: 16 / OEF: 42



ATACMS TACMS 2000 (M57)

- Range: 70-300 km
- Payload: WDU-18 WHD/ FMU-161/B PD Fuse
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: 513
- Expenditures: OEF: 33



ATACMS Modifications (M57)

- Range: 70-300 km
- Payload: WDU-18 WHD/ FMU-161/B PD Fuse / Proximity Sensor
- Guidance: Inertial w/ GPS Aided
- Army Acq Obj: TBD
- Expenditures: N/A



Long Range Precision Fires (TBD)

- Range: 75-499 km
- Payload: TBD
- Guidance: TBD
- Army Acq Obj: TBD
- Expenditures: N/A

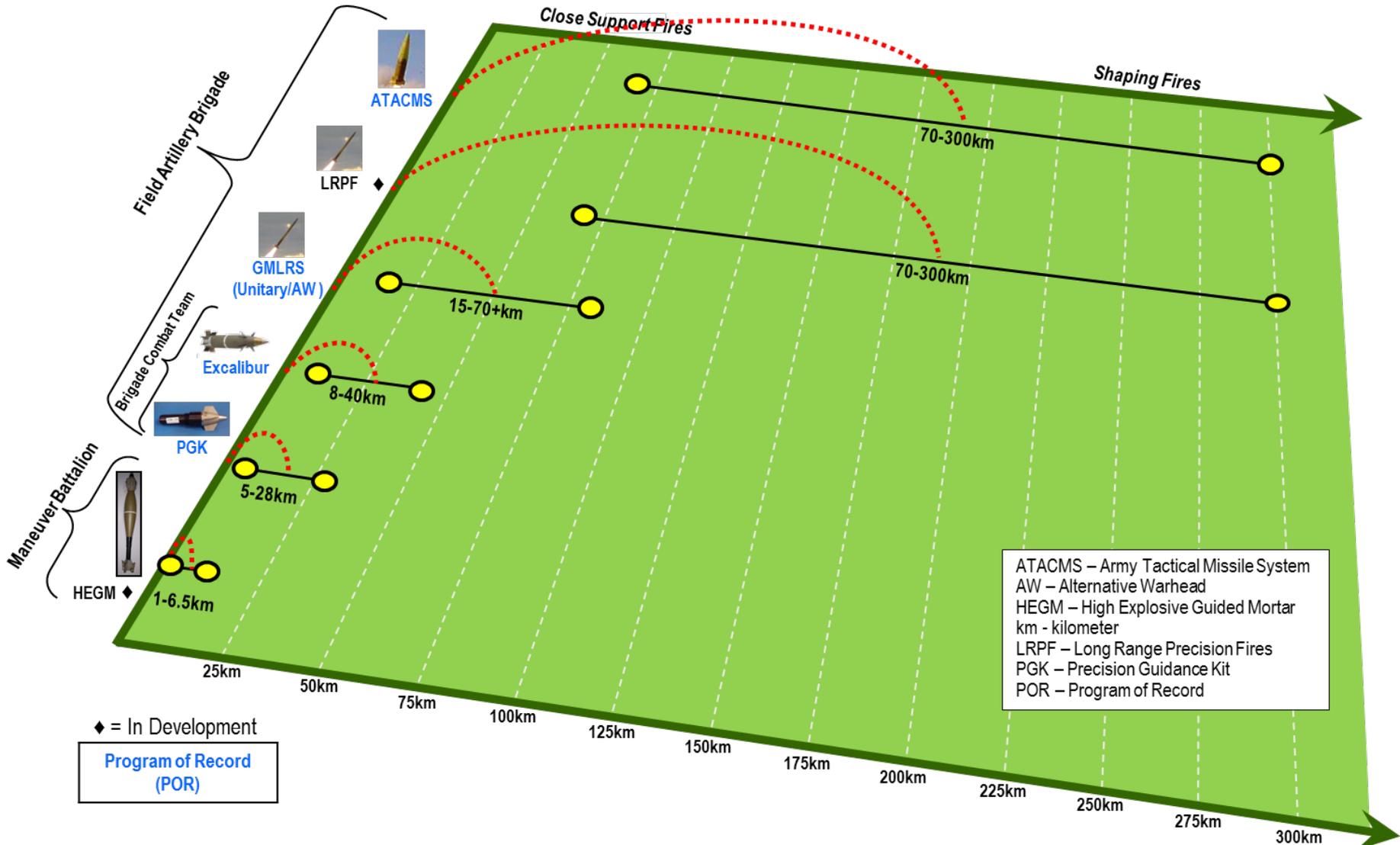




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Field Artillery

Precision Guided Munitions

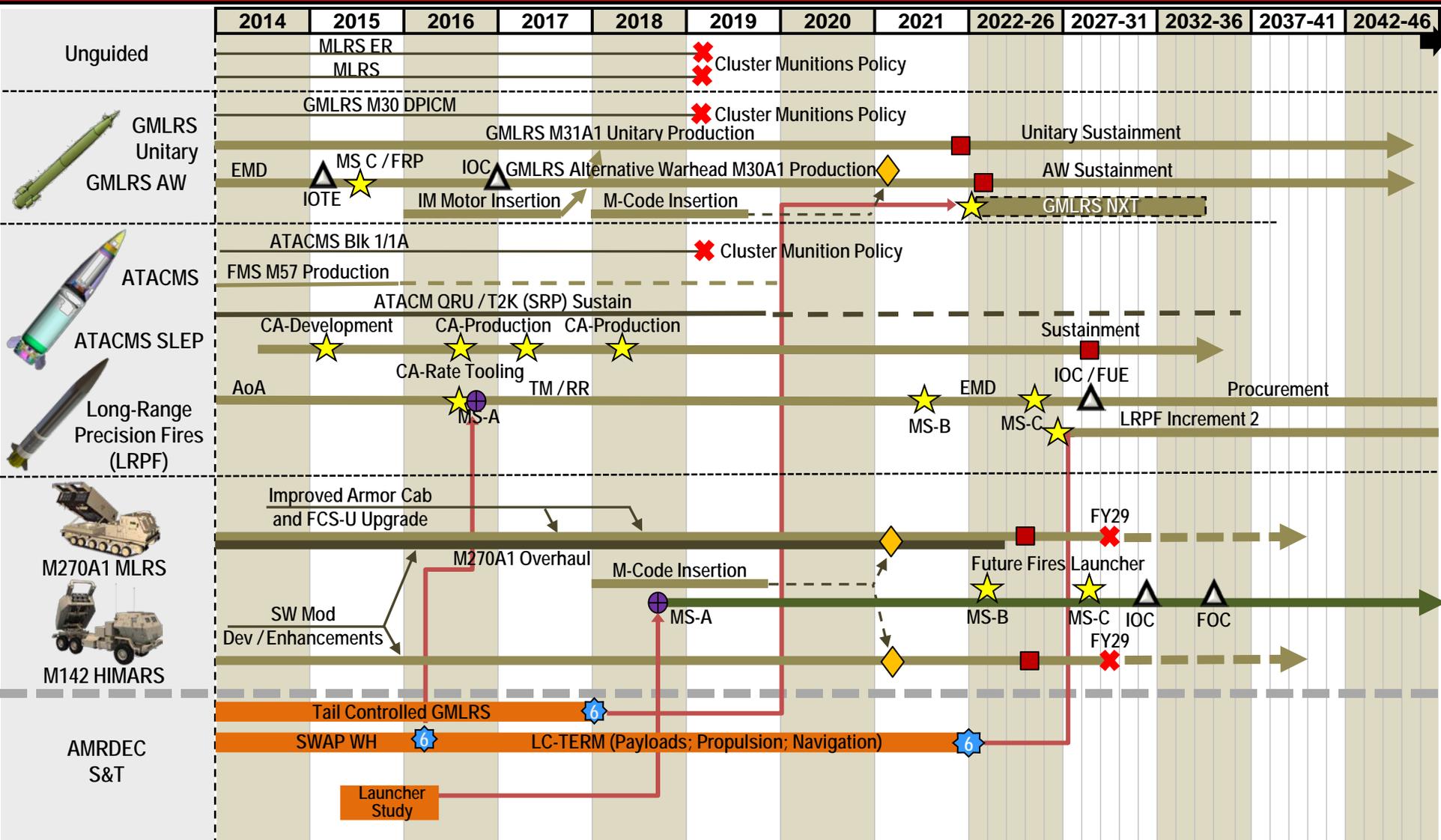


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Precision Fires Road Map



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Guided Multiple Launch Rocket System (GMLRS) Unitary & AW



Program Description

- Three GMLRS variants, differentiated by warhead:
 1. GMLRS DPICM no longer in production but in inventory
 2. GMLRS Unitary in production
 3. GMLRS AW production cut-into FRP 10 in FY15
- Prime Contractor: Lockheed Martin, Dallas TX and Camden AR

Recent Milestones or Events

- Jun 15: AW production contract awarded
- Nov 15: DASD(DT&E) approval of TEMP
- Mar 16: IM Propulsion System qualification contract awarded

Near Term Milestones or Events

- FY16: AW Initial Operational Capability (IOC)

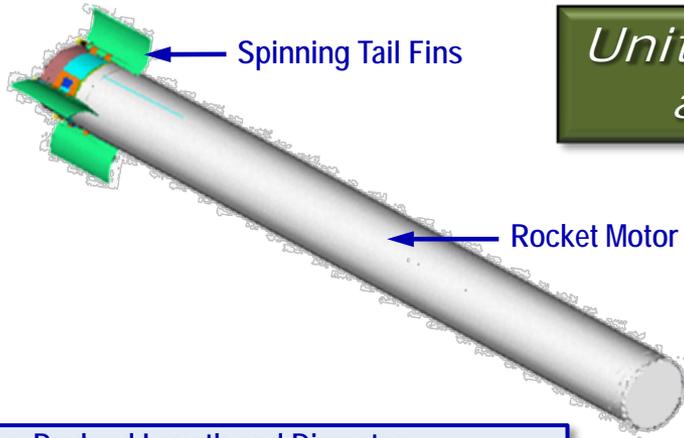




GMLRS Unitary and Alternative Warhead Commonality



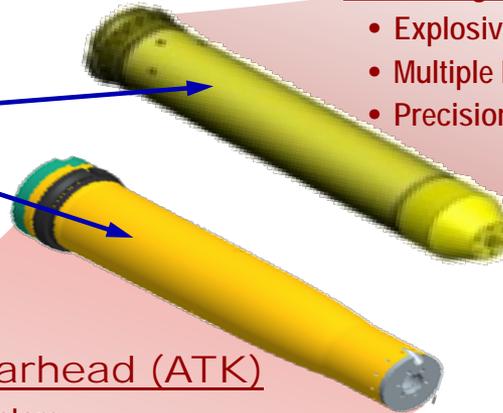
Unitary and AW Rockets are 90% Common



- Payload Length and Diameter
- Outer Skin
- Electronic Safe & Arm Fuze (ESAF)
- ESAF Wiring Harness
- Forward and Aft Bulkhead and Interface
- Aft Spacer

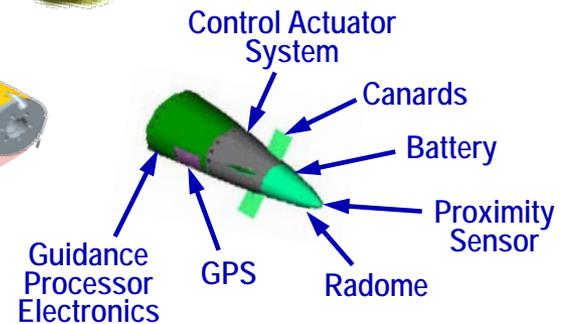
Unitary Warhead (GD-OTS)

- Explosively Formed Steel Case Fragments
- Multiple Fuzing Options
- Precision Strike with Low Collateral Damage



Alternative Warhead (ATK)

- Pre-formed Penetrators
- Insensitive Munitions Design (Blow-out Venting)
- Area and Imprecisely Located Targets



Successful AW EMD Flight Tests:

- Total of 99 rockets with 99% point reliability (98 of 99 success)

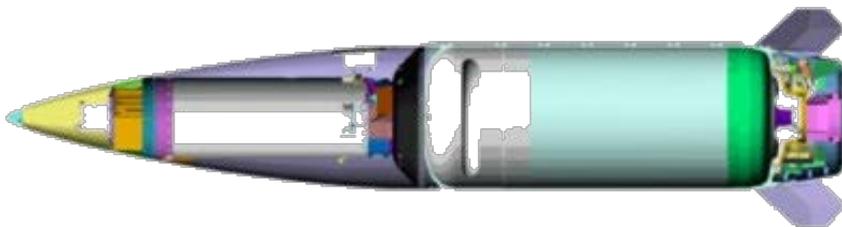
Legend:
 Common Components
 Unique Components

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Army Tactical Missile System (ATACMS) SLEP

Program Description



- Take expired ATACMS Block I missiles and reset their shelf life
- Replace the existing M74 bomblets with a DoD Cluster Munition policy compliant warhead
- Refresh propellant and electronics
- 300 km maximum range with a 500 lb warhead
- PM Precision Fires Rocket & Missile Systems (PFRMS), Redstone Arsenal, AL
- Decision Authority: PEO M&S
- Prime contractor: Lockheed Martin, Dallas TX

Recent Milestones or Events

- Sep 15: ATACMS PDR
- Oct 15: Static test of re-grained rocket motors
- Nov 15: Began modifications to Camden production facility
- Nov 15: AAE signed ADM for ACAT III designation



Near Term Milestones or Events

- May 16: SLEP Development contract definitization
- May 16: ATACMS SLEP IPR #2
- Jul 16: Flight Test #1



LRPF Increment 1 Program Overview



- **LRPF Increment 1 Description:**
 - Increment 1: 300+ km ballistic missile to replace ATACMS
 - Attack critical and time sensitive area and point targets including threat air defense, missile launchers, and assembly / staging areas
 - Services: Army Development / Production
 - Technology upgrades via Open Systems Architecture
 - Growth capabilities for follow-on increments
- **CDD Approval Status:**
 - Army approval expected 2QFY16; Document is in HQs DA staffing in support of MS A
- **ACAT Level: Pre-MDAP (ACAT 1D)**
- **MDA: USD (AT&L); Honorable Frank Kendall**
- **CAE: ASA (ALT); Honorable Katrina McFarland**
- **PEO: Mr. Barry Pike**
- **PM: COL James Mills**

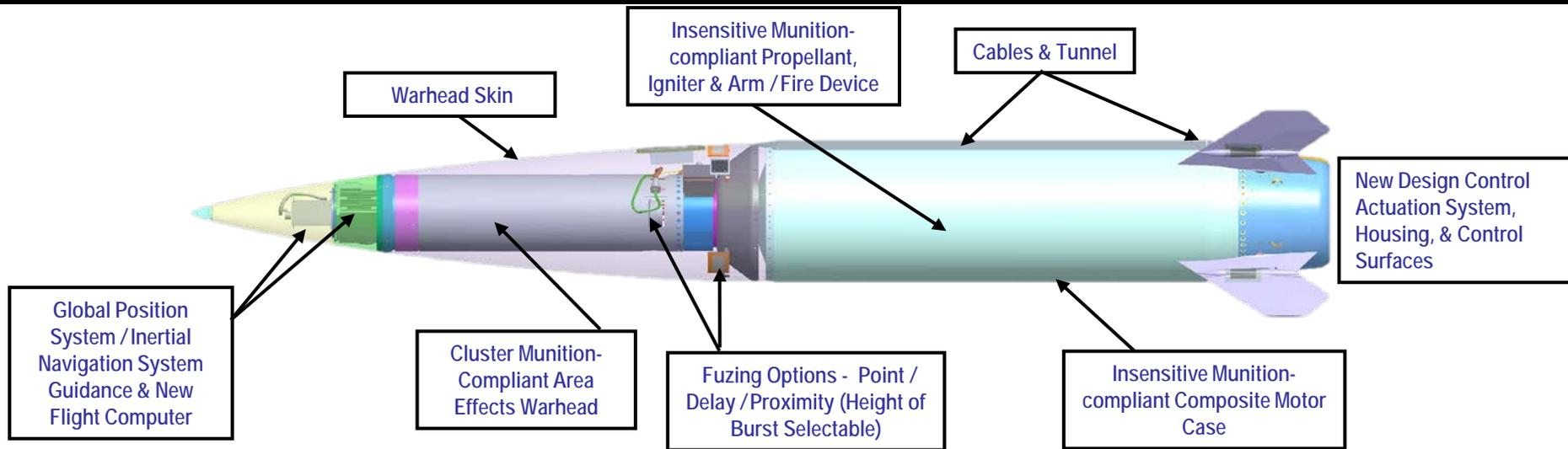
ACAT – Acquisition Category
 ASA(ALT) – Assistant Secretary of the Army (Acquisition, Logistics and Technology)
 ATACMS – Army Tactical Missile System
 BG(P) – Brigadier General (promotable)
 CAE – Component Acquisition Executive
 CDD – Capability Development Document

COL - Colonel
 GPS – Global Positioning System
 HIMARS – High Mobility Artillery Rocket System
 IM – Insensitive Munition
 km – kilometer
 lb – pound
 LRPF – Long Range Precision Fires

MDA – Milestone Decision Authority
 MDAP – Major Defense Acquisition Program
 PEO – Program Executive Officer
 PM – Project Manager
 QFY – Quarter, Fiscal Year
 USD(AT&L) – Undersecretary of Defense (Acquisition, Technology and Logistics)



LRPF Increment 1 Concept System

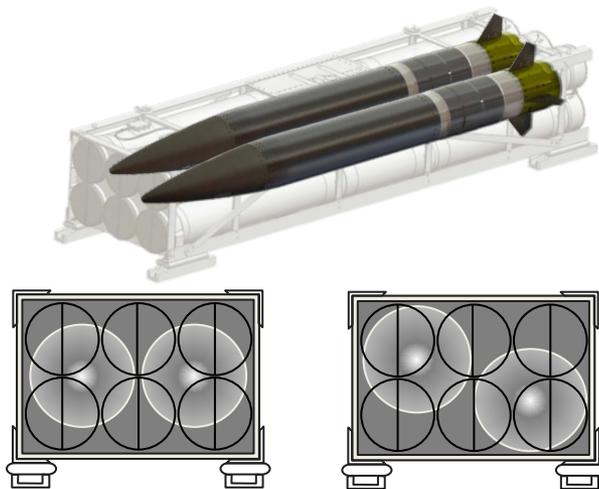


New Launch Pod Missile Container (LPMC)

Compatible with Current Launchers

M270A1

High Mobility Artillery Rocket System (HIMARS) M142



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Questions

