

Armor and Fire Support Systems Product Group 14 Overview

**Robert L. Williams Jr.,
Product Group Director**





Our Product Groups Portfolio consists of the following:

PM FSS

- Joint Enhanced Targeting System
- Common Laser Rangefinder (CLRF)
- Ground Counter Fire Sensor (GCFS)
- Ground Laser Target Designator (GLTD)
- M198 Howitzer
- Howitzer Information Tool
- Improved Position/Azimuth Determining System
- Mortar Ballistic Computer
- Meteorological Station Group, Profiler
- Modular Artillery Charge System
- Multi Option Fuze Artillery
- Portable Inductive Artillery Fuze Setter

PM EFSS

- Expeditionary Fire Support System
- Internally Transportable Vehicle
- High Mobility Artillery Rocket System
- Guided Multiple Launch Rocket System
Rockets

PM AAVS

- RAM/RS Program
- AAV Modification Kits
- AAV C7 Upgrades

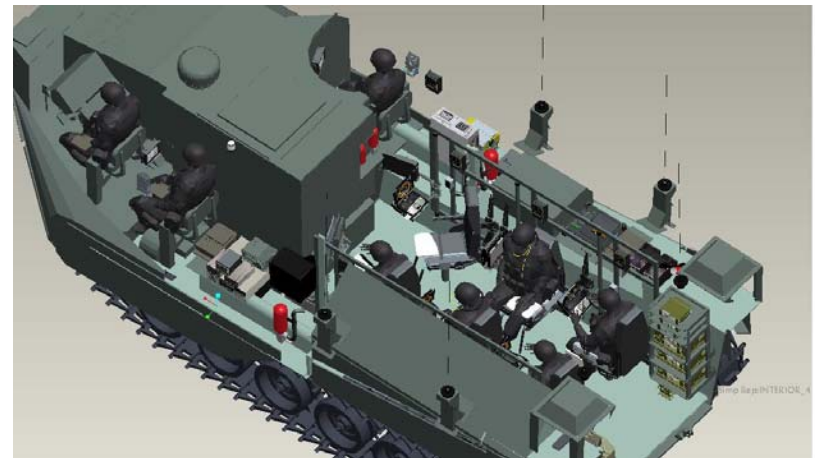
PM TANKS

- M1A1 Firepower Enhancement Program
- M1A1 Safety Modification Program
- M88A2 Hercules Tank Recovery Vehicle
- Armored Vehicle Driver Vision Enhancement
- Marine Corps Transparent Armor Gun Shield



We are soliciting help from Industry in order to:

- **Keep systems current and capable**
- **Insert technology into our products**





EQUIPPING THE WARFIGHTER TO WIN

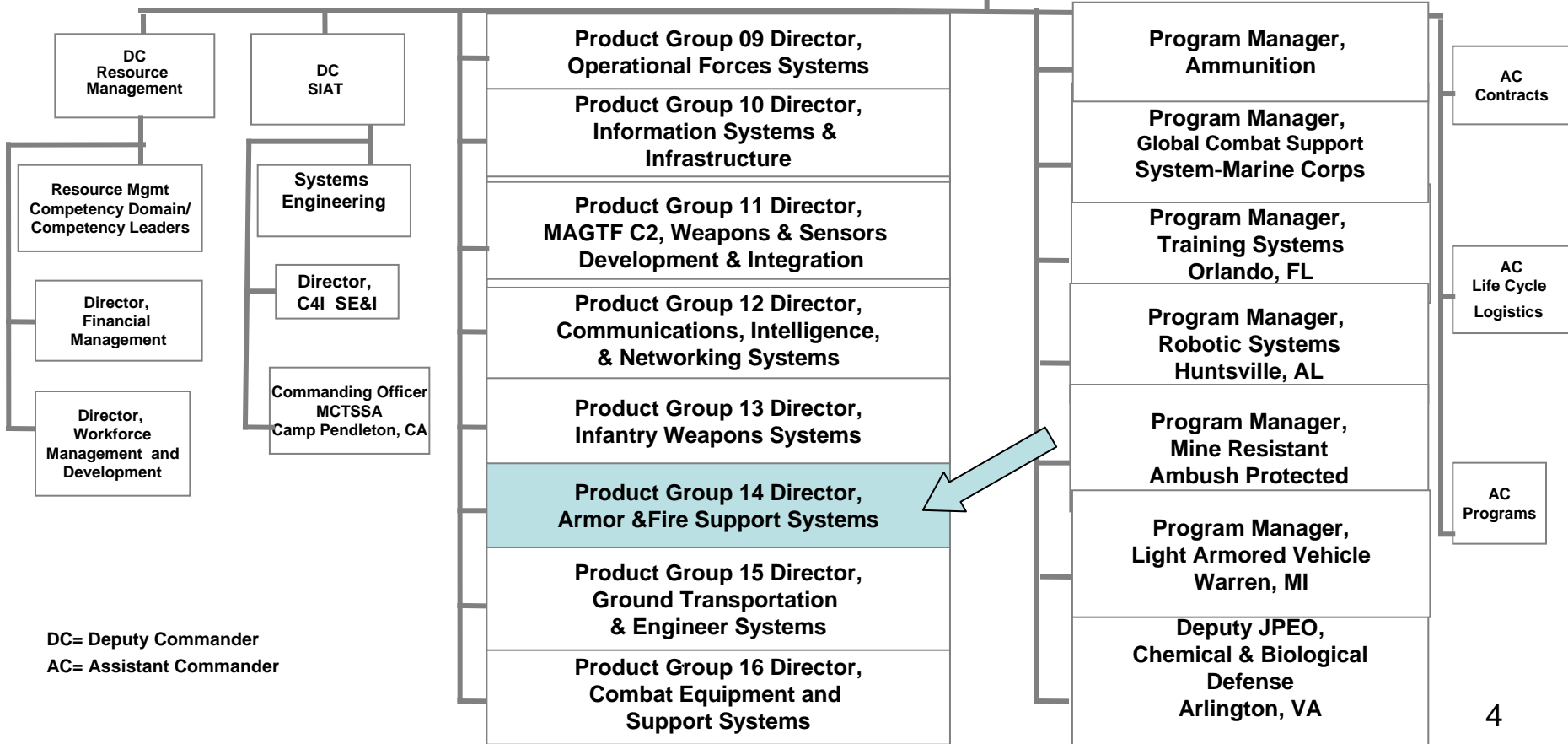
PEO Land Systems

- PM Expeditionary Fighting Vehicle
- PM JPMO, Lightweight 155
- PM Marine Personnel Carrier
- PM LVSR, PM JLTV
- PM MTRV, PM GATOR, PM CAC2S
- PM CAC2S

**COMMANDER
EXECUTIVE DIRECTOR**

Product Groups

Program Managers





Product Group Principals:

PM Fire Support Systems, *Mr. James Ripley*

PM Tank Systems, *LtCol Wendell Leimbach*

PM Assault Amphibious Vehicles, *Mr. Bryan Prosser*

PM Evolutionary Firing Systems, *Mr. John Garner*

Competency Alignment Team

- Business Manager: *Vacant*
- Contracts Manager: *Mr. Edwin Wright*
- Lead Financial Manager: *Mr. Jeffrey Speer*
- Lead Engineer: *Mr. Craig Melton*
- Lead Logistician: *Mr. Jeffrey Gibbs*



EQUIPPING THE WARFIGHTER TO WIN

	FY08	FY09	FY10	FY11	FY12	FY13
RDT&E	\$13.1M	\$55.5M	\$10.0M	\$07.9M	\$11.4M	\$11.4M
PMC	\$189.9M	\$173.5M	\$204.2M	\$88.7M	\$70.5M	\$28.2M

PG-14



Areas of Interest:

- ✓ Lighter and “Better” Combat Vehicle Armor
- ✓ More accurate and lighter target location and designation
- ✓ Power Generation
- ✓ Survivability
- ✓ Mobility Enhancements
- ✓ Ammunition Enhancements (EFSS and HIMARS)
- ✓ Alternative meteorological sensing and prediction tools
- ✓ Obsolescence (parts, equipment)



- **Next speaker.....**

**Mr. Bryan Prosser, Program Manager,
Assault Amphibious Vehicle Systems**

**Armor and Fire Support Systems
Product Group 14
Assault Amphibious Vehicle Systems**

Mr. Bryan Prosser, Program Manager





PM Assault Amphibious Vehicle Systems Mr. Prosser

Mission:

- Lifecycle management of the AAV FOV
- Support and maintain safe, reliable and combat effective AAVs
- Develop, procure and field modifications to maintain combat readiness and effectiveness





PM Assault Amphibious Vehicle Systems Mr. Prosser

- **Three Variants in the AAV FOV**
 - AAVP7A1 – Personnel
 - AAVC7A1 – Command
 - AAVR7A1 – Recovery
- **Mission: To maneuver the surface assault elements of the landing force and their equipment from assault shipping during amphibious operations to inland objectives and to conduct mechanized operations and related combat support in subsequent operations ashore**
- **History**
 - 1972 – 1975 LVT Fielded
 - 1983 – 1987 Service Life Extended Program and re-designated AAV7A1
 - 1999 – 2007 RAM/RS Upgrade
- **Remain in the USMC inventory until fully replaced by EFV in 2025**

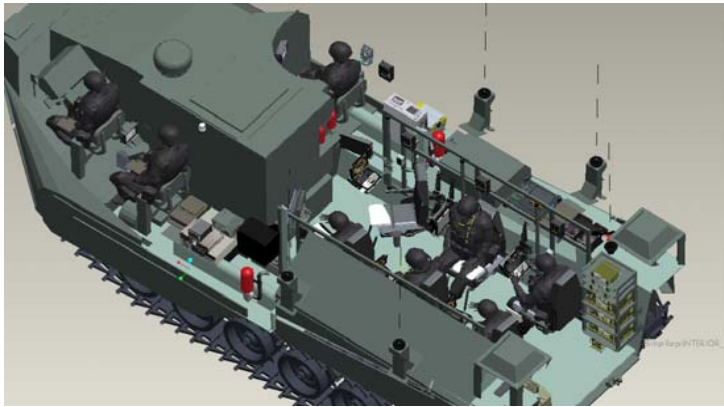


PM Assault Amphibious Vehicle Systems Mr. Prosser

Near – Term Program Initiatives

AAVC7 C2 Upgrade

- Replacing obsolete communications equipment and providing HF, VHF and UHF space LOS and UHF SATCOM capability
- Providing 6 functionally interchangeable staff work stations capable of hosting current MAGTF C2 applications



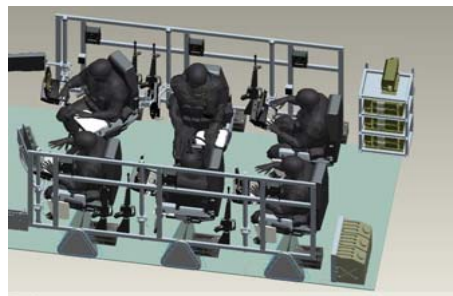
Thermal Sight System

- Fielding Started February 2008
- Fielding Complete December 2008 (except MPF)



AAV Mod Kits

- Develop and field modifications required to address issues related to safety, reliability, parts obsolescence and emerging requirements





PM Assault Amphibious Vehicle Systems Mr. Prosser

Future Program Initiatives

Survivability, C4I and Environment/Habitability (SCE) Upgrade

- **Survivability**

- Improved Armor System
- Spall Liner
- Improved Fire Suppression System
- Blast Attenuation/Protection Seats

- **C4I**

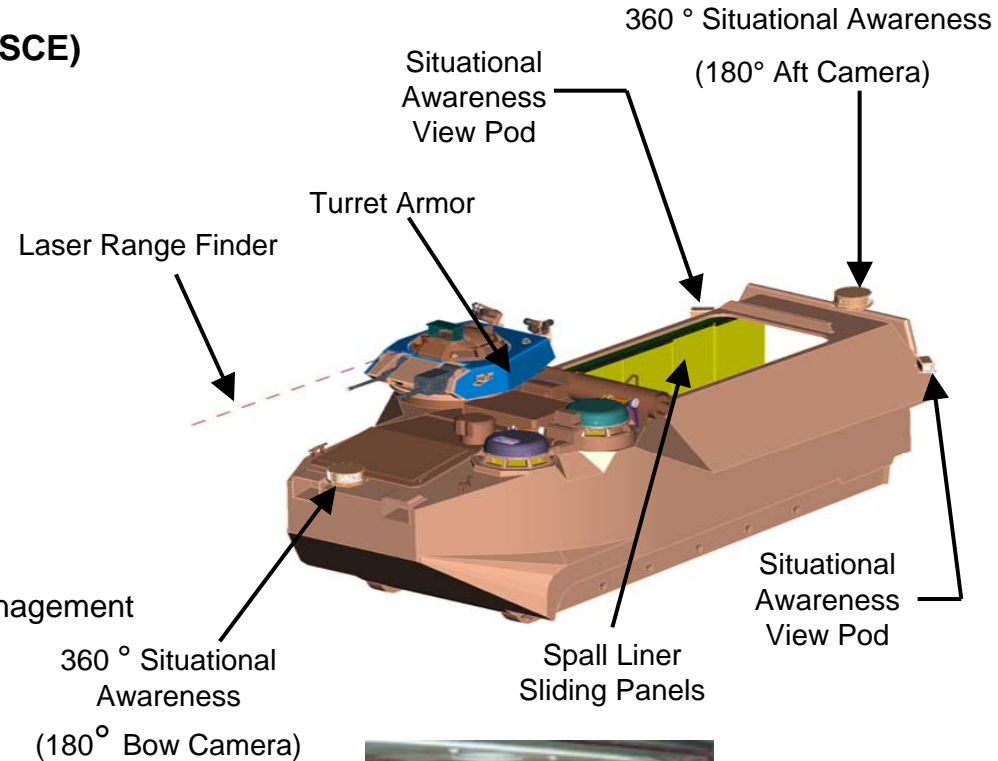
- Open System Architecture
- Improved Battlespace Situational Awareness
- Integral Navigation System
- Improved Vehicle Intercom
- Auxiliary Power System/Improved Power Management

- **Environment/Habitability**

- Improved Air Quality
- Noise/Heat/Vibration Reduction

Up-Gunned Weapons Station (UGWS) Improvements

- Stabilization & proportional controls
- Laser Range Finder
- Improved Slip Ring
- Turret Armor



Rear Photo of Vehicle Dual Shot AFSSS (Non - Toxic) 13



PM Assault Amphibious Vehicle Systems Mr. Prosser

		FY08	FY09	FY10	FY11	FY12	FY13
AAVS	RDT&E	\$0.8M	\$0.8M	\$0.9M	\$0.9M	\$0.9M	\$0.9M
	PMC	\$4.0M	\$5.3M	\$3.8M	\$3.0M	\$9.3M	\$9.6M
	AAV Modification Line						
	RDT&E		\$43.2M				
	PMC						
	AAV SCE Line						



PM Assault Amphibious Vehicle Systems Mr. Prosser

- Next speaker....

**Mr. John Garner, Program Manager,
Evolutionary Firing Systems**

Armor and Fire Support Systems Product Group 14

Evolutionary Firing Systems PMM-144

**Expeditionary Fire Support System (EFSS)
Internally Transportable Vehicle (ITV)
High Mobility Artillery Rocket System (HIMARS)**

Mr. John Garner, Program Manager





PM Evolutionary Firing Systems: Mr. John Garner

Description:

- Responsible for the complete life-cycle management of the EFSS, ITV, and HIMARS; including developing, testing, fielding, sustaining, and planning for disposal of the systems
- Product Portfolio: EFSS, ITV, and HIMARS
- Industry Can Provide Support By:
 - **Continuing / Accelerating Development of Lightweight Vehicle Armoring Techniques and Material**



PM Evolutionary Firing Systems: Mr. John Garner

Near-Term Program Initiatives

- **EFSS**
 - Fielding
 - Precision Extended Range Munitions (17km)
 - Corrosion Protection
- **ITV**
 - Fielding
 - Weight Reduction
 - Lightweight Vehicle Armoring
 - Communication and Medical Variants
 - Corrosion Protection
- **HIMARS**
 - Completion of Fielding
 - Procurement of Guided Multiple Launch Rocket System (GMLRS) Rocket Pods in accordance with Total Munitions Requirement





EFS FYDP Investments

	FY08	FY09	FY10	FY11	FY12	FY13
RDT&E PMC Expeditionary Fire Support System (EFSS)	\$7.4M \$3.9M	\$5.4M \$22.1M	\$5.2M	\$3.1M	\$5.0M	\$5.1M
	Precision Extended Range Munitions			Mortar Computer		
	EFSS Procurement and Fielding					
RDT&E PMC Internally Transportable Vehicle (ITV)	\$6.5M	\$8.0M	\$13.3M	\$19.7M		
	ITV Procurement and Fielding					
RDT&E PMC High Mobility Artillery Rocket System (HIMARS)	\$1.2M \$30.4M	\$2.4M \$109.5M	\$0.5M \$172.5M	\$0.5M \$50.4M	\$2.1M \$22.4M	\$2.4M \$7.0M
	Launcher Improvements			Integration of New Rockets		
	HIMARS Fielding & Sustainment			GMLRS Procurement and Deliveries		



PM Evolutionary Firing Systems: Mr. John Garner

Future Program Initiatives

- **EFSS**
 - Ammunition Capability Enhancements
 - Infra-Red (IR) Illumination
 - Rocket Assisted Projectiles (RAP)
- **ITV**
 - Weight Reduction
 - Shoring
 - Alternative Engines or Propulsion System
- **HIMARS**
 - System Capability Upgrades Throughout the FYDP
 - Continue Procurement of GMLRS Rocket Pods Throughout the FYDP
 - Sustainment of Fielded HIMARS Systems
 - Integration of New Rockets



PM Evolutionary Firing Systems: Mr. John Garner

- Next speaker.....

**Mr. James Ripley, Program Manager,
Fire Support Systems**

**Armor & Fire Support Systems
Product Group 14
Fire Support Systems**

Mr. Jim Ripley, Program Manager





PM Fire Support Systems Mr. Ripley

PM Fire Support Systems is responsible for the acquisition, fielding, and sustainment of equipment that provides the Marine Corps with its ground fire support capability



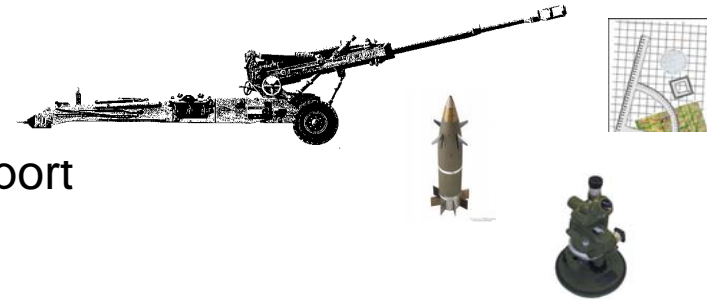


PM Fire Support Systems Mr. Ripley

Project Portfolio

- **Fielded Firing Systems**

- M198 Phase Out & LW155 Fielding Support
- SL-3 / Ancillary Items:
- Munitions Development, i.e. Excalibur
- Asset Enterprise Management Information Tool (AEMIT) / Electronic Weapons Record Book (EWRB)



- **Targeting Systems**

- Common Laser Range Finder (CLRF)
- Laser Target Designators (LTD)
- Thermal Laser Spot Imager (TLSI)
- True North Module (TNM)
- Joint Effects Targeting System (JETS)



- **Survey / Met Systems**

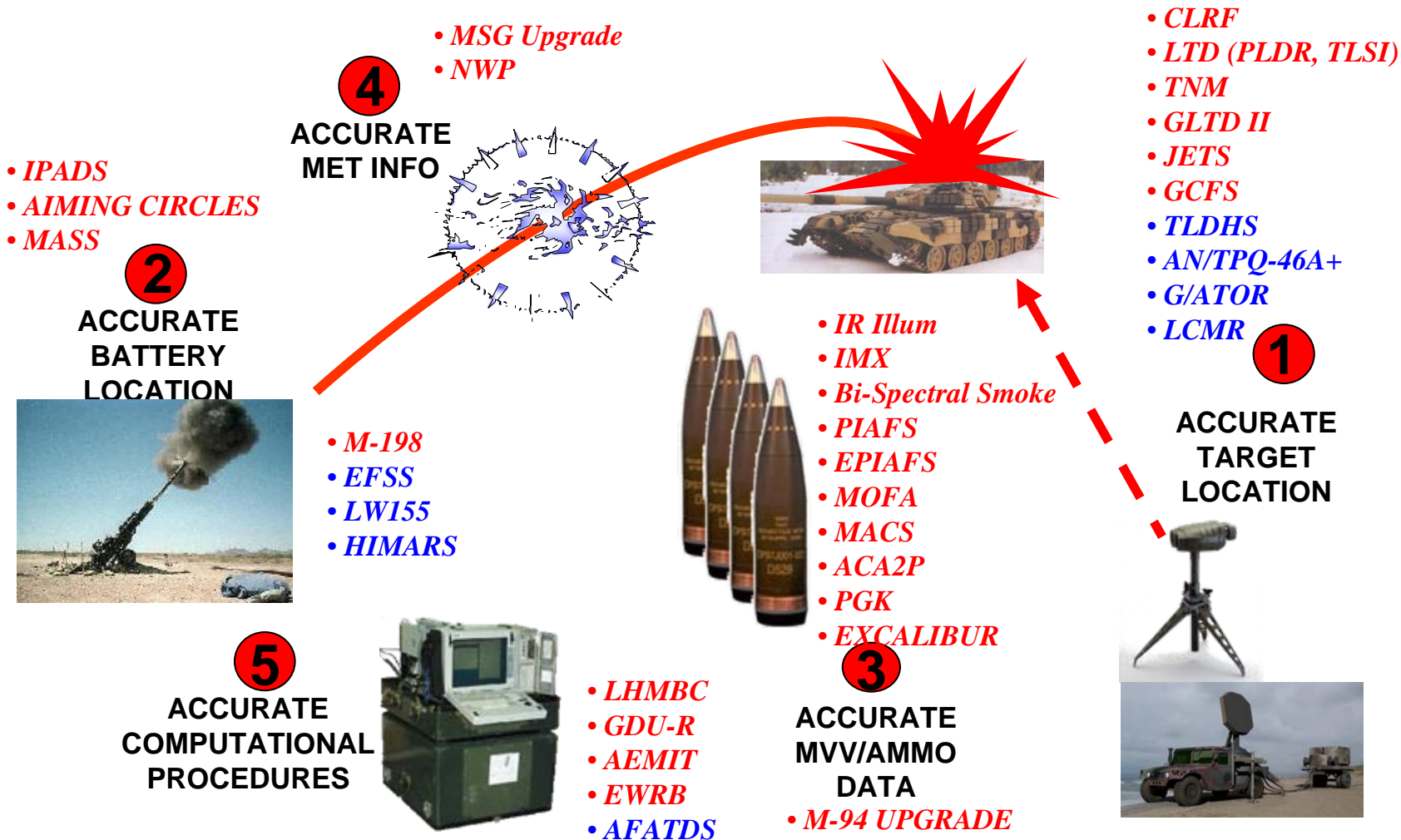
- Ground Counter Fire System (GCFS / HALO)
- MAGTF Meteorological Information Manager (MMIM)





PM Fire Support Systems Mr. Ripley

Five Requirements for Accurate Predicted Fires





Near-Term Program Initiatives

- **Fielded Firing Systems**

- Equip howitzers with sensors to track Effective Full Charges (EFCs), miles traveled / terrain towed, and recoil condition

- **Targeting Systems**

- True North Module: *RFP release in May 08.*
Azimuth unaffected by magnetic fields. \$2-4M in FY08 Procurement.

- **Survey / Met Systems**

- Procurement of 3 balloon-less Met Sensor systems for Extended User Evaluation
- Find alternate battery opportunities for Ground Counter Fire Sensor GCFS



FSS FYDP Investments

		FY08	FY09	FY10	FY11	FY12	FY13
Fielded Firing Systems	RDT&E	\$0.3M	\$1.0M	\$1.0M	\$1.0M	\$1.0M	\$1.1M
	AEMIT related Howitzer sensors						
	PMC	\$2.7M	\$0.8M	\$0.8M	\$1.6M	\$2.3M	\$1.6M
	Arty-MEC / AEMIT related Howitzer sensors						
Targeting Systems	RDT&E	\$1.4M	\$0.7M	\$0.7M	\$0.7M	\$0.7M	\$0.7M
	TNM / JETS						
	PMC	\$16.5M	\$0.8M	\$0.8M	\$1.6M	\$2.3M	\$1.6M
	CLRF, LTD / TNM						
Survey / Met Systems	RDT&E	\$1.2M	\$1.7M	\$0.7M	\$0.7M	\$0.7M	\$0.7M
	MMIM Phase I / MMIM Phase II						
	PMC	\$1.8M	\$0.8M	\$0.8M	\$1.6M	\$3.3M	\$1.6M
	MSG upgrade / MMIM Phase I / MMIM Phase II						



Future Program Initiatives

- **Fielded Firing Systems**
- **Targeting Systems**
 - Continue to research True North technology for other systems
 - **JETS**: Work with Army/AF and industry to develop range finder, spot imager and designator with a reduced footprint / weight
 - Research the Marine Corps need for hand held designators
- **Survey / Met Systems**
 - **GCFS**: Continue participation in Multi-National P3I Working Group (UK & Canada)
 - Replace the Meteorological Station Group (MSG) with the MAGTF Meteorological Information Manager (MMIM)



- Next speaker:

LtCol Wendell Leimbach,
Program Manager, Tank Systems



Armor and Fire Support Systems Product Group 14 Program Manager, Tank Systems PMM-142

**LtCol Wendell Leimbach,
Program Manager**





PM Tank Systems

LtCol Leimbach

MISSION:

To equip operating forces with effective sustainable tank, heavy recovery, assault bridging, and support systems to accomplish their warfighting missions; and to incorporate next-generation armor and tactical vehicle technologies to ensure their continued combat dominance.

Product portfolio:

M1A1 Tank

M88A2 Recovery Vehicle / Support Equipment

Marine Corps Armored Gun Shields (MCTAGS)



PM Tank Systems

LtCol Leimbach

Near-Term Program Initiatives

- **M1A1 Tank**
 - M1A1 Firepower Enhancement Program
 - Stabilized Tank Commander's Weapon Station
 - Improved loader's weapon station
 - Tank Systems Improved Reliability and Sustainability
 - 120mm Multi-Purpose High Explosive round
 - Crew Cooling
 - Improved External Auxiliary Power Unit
- **M88A2 HERCULES**
 - Improved Vehicle Commander's Weapon Station
 - .50 cal Thermal Weapons Sight





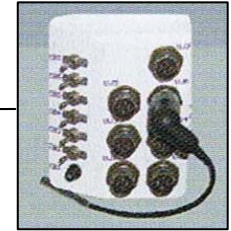
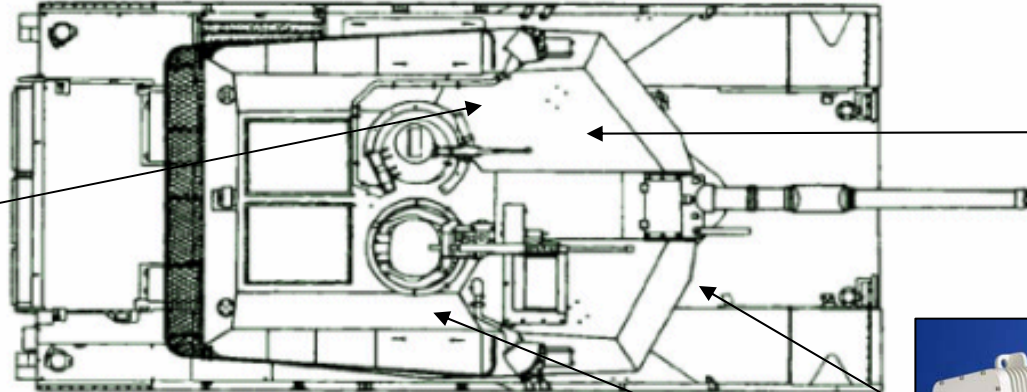
		FY08	FY09	FY10	FY11	FY12	FY13
M1A1 FEP	PMC	\$14.6M	\$14.7M				
		M1A1 FEP					
M1A1 Mod Kits	PMC	\$105.5M	\$11.1M	\$11.9M	\$10.5M	\$25.6M	\$6.5M
	RDT&E	\$1.0M	\$1.1M	\$1.1M	\$1.1M	\$1.1M	\$0.5M
		M1A1 Multipurpose Blade					
		Tank Safety Mods					
		M1A1 Mod Kits					
		M88A2					
		Vehicle Technologies					
Tank Safety Mods/ Tool and Test	PMC	\$3.9M	\$0.2M	\$0.2M	\$0.2M	\$0.3M	\$0.3M
		Safety Mods/Tool and Test					



PM Tank Systems

LtCol Leimbach

RTNB



PDB

Future Program Initiatives
Active Protection Systems
C4I Integration
Modernization

Survivability/Lethality Enhancement

Sniper Detection

Supportability initiatives

Vehicle Health Management

Reliability Centered Maintenance

Platform digitization (analog vehicles in a digital age)



UTCP



RHNB



PM Tank Systems

LtCol Leimbach

Tanks in the Global War on Terrorism





Questions?