

Presented to:  
**NDIA 58<sup>th</sup> Annual Fuze Conference**  
**Baltimore, Maryland**



U.S. ARMY  
**RDECOM**



## **AMRDEC Fuze S&T Overview**

8 July 2015

Presented by:  
**Milton E. "Gene" Henderson, Jr**  
U.S. Army Aviation and Missile  
Research, Development, and Engineering Center

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## Our Mission

Deliver collaborative and innovative technical capabilities for responsive and cost-effective research, product development and life-cycle systems engineering solutions.

## What We Manage

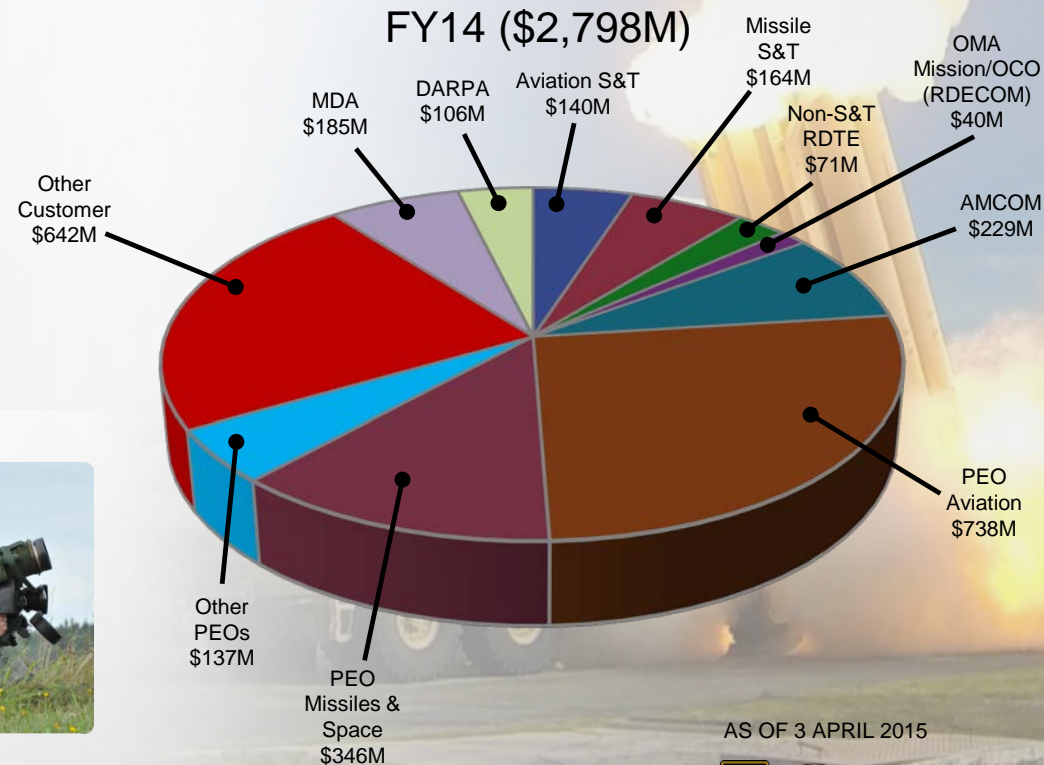
- FY15 Projected Funding > \$2.6B
- Over 3.0M square feet in RDTE space
- 260 Facilities – Redstone and Offsite
- Additional unique test facilities and wind tunnels across the US



## What We Do

- Basic and Applied Research
- Technology Development
- Future Systems Development
- Fielded Systems Support
- Rapid Prototyping
- Obsolescence Management
- Technology Refresh

## Who We Support



AS OF 3 APRIL 2015





# AMRDEC Personnel & Locations

**FY14 Strength = 10,138**

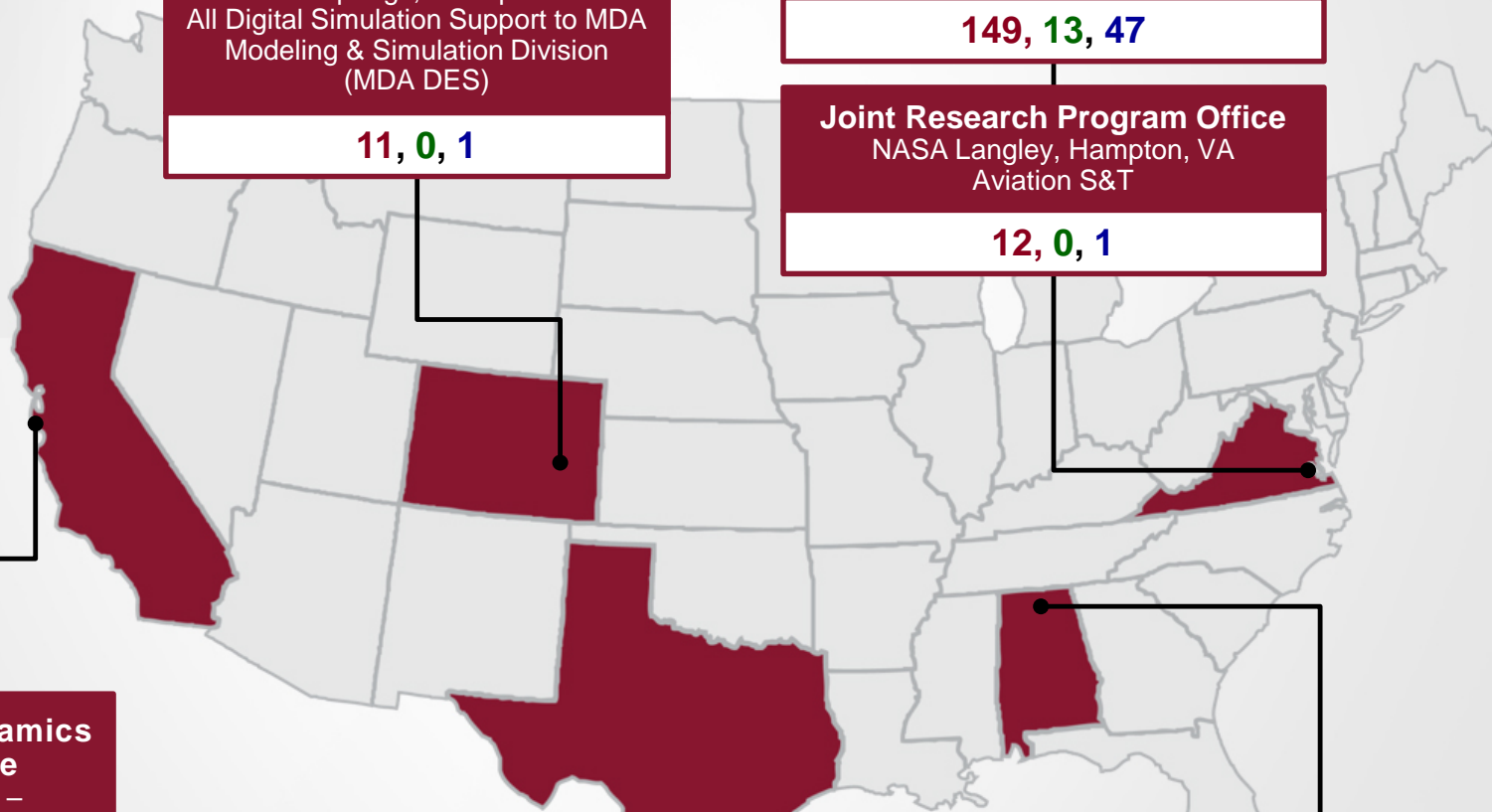
81.0% S&E

Civilian	3,028
Military	20
Contractor	7,090

**Current S&E Personnel**

PhD	4%
MS	38%
BS	100%

Average Age: 46.5 yrs



**System Simulation and Development Dir.**  
 Colorado Springs, CO Operations –  
 All Digital Simulation Support to MDA  
 Modeling & Simulation Division  
 (MDA DES)

**11, 0, 1**

**Aviation Applied Technology Dir.**  
 Ft. Eustis, VA –  
 Aviation R&D, Systems Eng / Special  
 Operations Forces Support

**149, 13, 47**

**Joint Research Program Office**  
 NASA Langley, Hampton, VA  
 Aviation S&T

**12, 0, 1**

**Aeroflightdynamics Directorate**  
 NASA Ames –  
 Moffett Field, CA  
 Aviation S&T

**73, 2, 57**

**Maintenance Eng. Div. Aviation Engineering Dir.**  
 Corpus Christi, TX  
 Aviation Sustainment Engineering

**52, 0, 56**

**AMRDEC HQ, Redstone Arsenal**  
 Huntsville, AL  
 Missile R&D  
 Aviation & Missile Systems Eng.  
 Aviation & Missile Sustainment Eng.  
 & Field Support

**2731, 5, 6928**





# AMRDEC Missile Technology Areas





# AMRDEC Missile S&T Capability Areas

## PROTECTION

Protect the force and selected geopolitical assets from aerial attack, missile attack and surveillance

- Air Defense
- Area Protection
- Platform Protection

## GROUND TACTICAL (CLOSE COMBAT)

Direct fire weapons, supported by indirect fire, air-delivered fires, and nonlethal engagement means to decide the outcome of battles and engagements

## FIRE SUPPORT

Destroy, neutralize, or suppress the enemy by cannon, rocket, and missile fire and to help integrate fire support assets into combined arms operations

## AVIATION WEAPONS

Find, fix, and destroy the enemy through fire and maneuver; and to provide combat, combat service and combat service support in coordinated operations as an integral member of the combined arms team



## PROGRAM ANALYSIS & EVALUATION

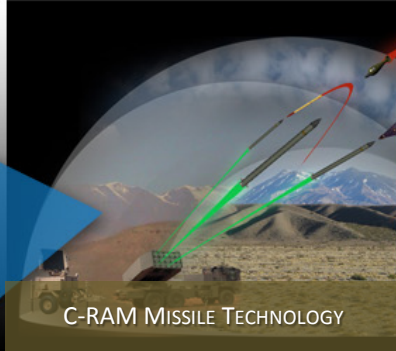
- AMRDEC PA&E Teams further the viability and effectiveness of missile science and technology efforts through the timely and coordinated study, synthesis, and evaluation of systems and technologies, both current and future
- Champion for Pervasive S&T



# System Overviews & Goals Protection



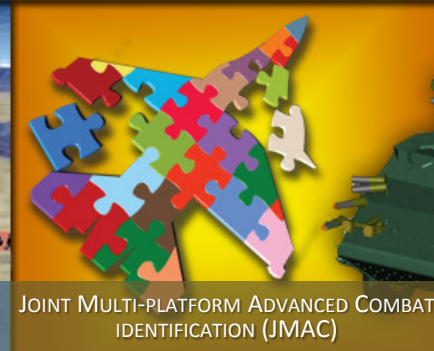
## NEAR-TERM SYSTEMS (FY15-19)



C-RAM MISSILE TECHNOLOGY



CUAS AT THE TACTICAL EDGE



JOINT MULTI-PLATFORM ADVANCED COMBAT IDENTIFICATION (JMACE)



MODULAR ACTIVE PROTECTION SYSTEMS (MAPS)

## MID-TERM SYSTEMS (FY20-29)



DIGITAL RADAR TESTBED



LOW-COST EXTENDED-RANGE AIR DEFENSE (LOWER-AD)

## FAR-TERM SYSTEMS (FY30+)



FUTURE MAN PORTABLE AIR DEFENSE SYSTEM (MANPADS)

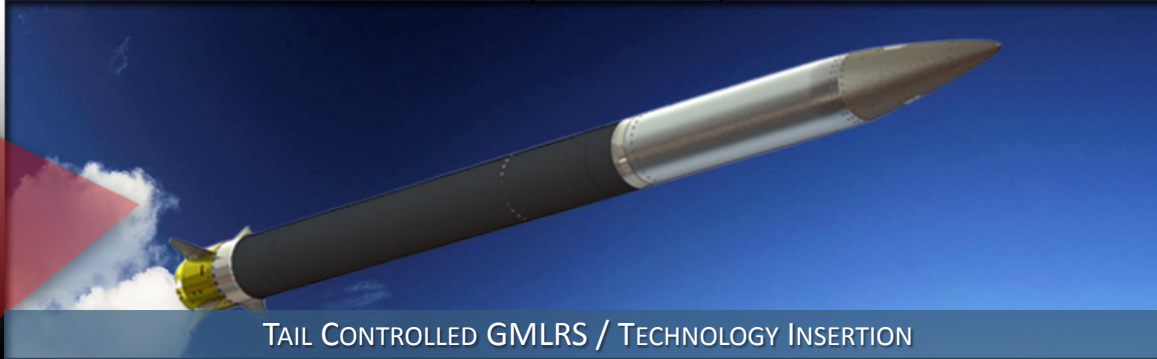


NEXT GENERATION LOWER TIER : EXPEDITIONARY INTERCEPTOR, LAUNCHER, FIRE CONTROL SENSOR

*Protection Capability Area Portfolio –  
Balancing Near-term Requirements With Future Vision And Innovation*



### NEAR-TERM SYSTEMS (FY15-19)



#### KEY TECHNOLOGIES

- Tail Control Actuation
- Extended Range Composite Motor w/Blast Tube
- Aerodynamic Airframe Optimization
- Possible Test-bed for Future Technologies/Capabilities

### MID-TERM SYSTEMS (FY20-29)



### FAR-TERM SYSTEMS (FY30+)





# System Overviews & Goals

## Ground Tactical Capability Area



### NEAR-TERM SYSTEMS (FY15-19)



LETHAL MINIATURE AERIAL MUNITION SYSTEM (LMAMS)  
SOPM, DFP AND CUAS



CUAS AT THE TACTICAL EDGE  
LMAMS WITH PRECISION FIRES MANAGER (PFM)



LIGHT-WEIGHT COMMAND LAUNCH UNIT (LW CLU)

### MID-TERM SYSTEMS (FY20-29)



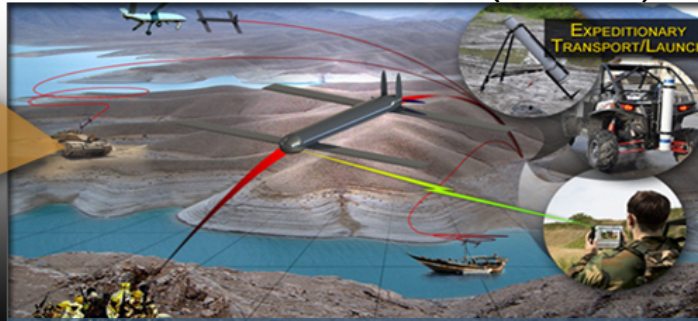
NEXT GENERATION CLOSE COMBAT MISSILE(S)



LMAMS ENHANCEMENTS

SOPM – SMALL ORGANIC PRECISION MUNITION  
DFP – DEPLOYABLE FORCE PROTECTION  
CUAS – COUNTER UAS

### FAR-TERM SYSTEMS (FY30+)



SINGLE MULTI-MISSION ATTACK MUNITION (SMAM)



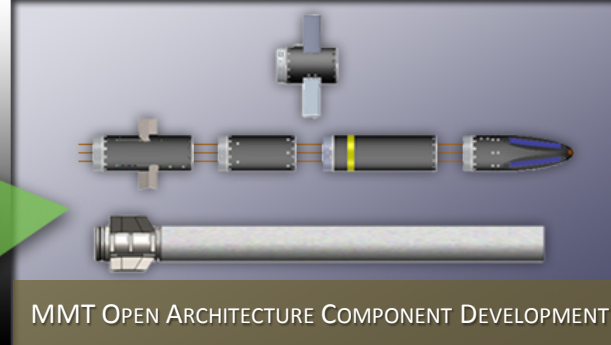
NEXT GEN PRECISION SLM



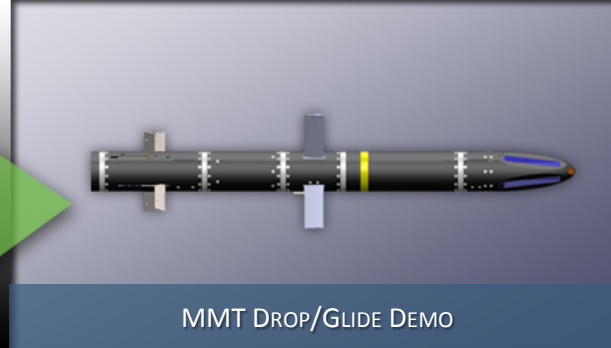
# System Overviews & Goals

## Aviation Capability Area

### NEAR-TERM SYSTEMS (FY15-19)



### MID-TERM SYSTEMS (FY20-29)



### FAR-TERM SYSTEMS (FY30+)



*Aviation Missiles Capability Area Portfolio –  
Open Architecture Missile Solutions For Multiple Platforms*