



U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND – AVIATION & MISSILE CENTER

Overview Brief

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CCDC VISION AND MISSION



VISION

To be the scientific and technological foundation of the Future Force Modernization Enterprise through world-leading research, development, engineering and analysis.

MISSION

To provide the research, engineering, and analytical expertise to deliver capabilities that enable the Army to deter and, when necessary, decisively defeat any adversary now and in the future.





CCDC ORGANIZATION



Headquarters U.S. Army Combat Capabilities Development Command Aberdeen Proving Ground, MD



**COL
Terrece Harris**
CoS



**BG
Vincent Malone**
DCG



**MG
John George**
CG



**Mr.
John Willison**
DtCG



**CSM
Jon Stanley**
CSM

CCDC Army Research Laboratory and Centers

Army Research Laboratory



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**COL
Thomas Ryan**



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**COL
Kelly Laughlin**

Armaments Center

Aviation & Missile Center



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C5ISR Center



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Douglas Tamilio**



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Frank Moore**

Soldier Center

Ground Vehicle Systems Center



**Mr.
Jeffrey Langhout**



**COL
Kevin Vanyo**

Data & Analysis Center



**Mr.
James Amato**



**COL
Gregory Smith**

CCDC Forward Elements

CCDC Americas



**COL
Patrick Badar**

CCDC Atlantic



**COL
Steven Ansley**

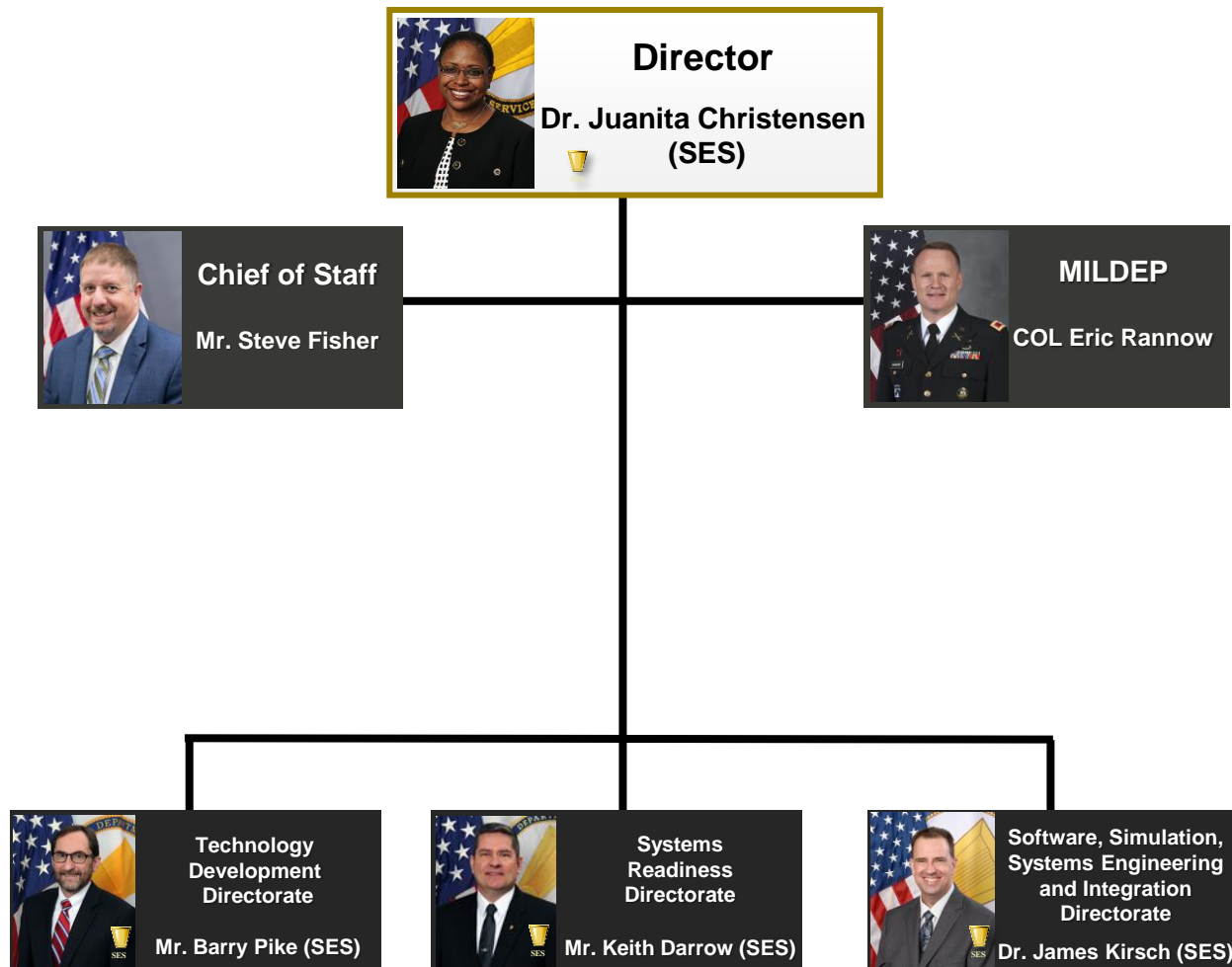
CCDC Pacific



**COL
Daryl Harger**



OUR LEADERSHIP



Scientific & Technical Positions (STs)

	Group Leader / Flight Control Technology Dr. Mark Tischler
	Optical Sciences Dr. Henry Everitt
	Aviation Advanced Design Vacant
	Radio Frequency Sensors Dr. Brian Smith
	Protective Technologies Dr. Donna Joyce



OUR MISSION



Deliver collaborative and innovative aviation and missile capabilities for responsive and cost-effective research, development and life cycle engineering solutions.



BY THE NUMBERS



12,054
FY19 Strength



3,036
Civilian

23
Military

~8,995
Contractor

Core Competencies

Technical Domain:

- Active and Passive Air Defense Sensor Technology (S&T)
- Aerial Autonomy
- Aerospace and Aerodynamics
- Capabilities Engineering
- Materials and Structures
- Fuzing, Guidance, Controls and Seekers
- Propulsion, Explosives, Energetics, Warheads

Capabilities Engineering:

- Software Engineering
- Weapons Assurance
- Modeling and Sim Design, Dev, VV&A
- Configuration Management
- Engineering Prototype Design and Dev
- Maintenance, Life Cycle Cost Reduction, and Logistics Engineering
- Manufacturing Tech and Production Support
- Multidiscipline Acquisition and Project Engineering
- Quality Engineering and Management
- Reliability, Availability, and Maintainability
- Sustainment, Industrial Base, and Obsolescence
- Systems Engineering, Integration, and Interoperability
- Test and Evaluation
- Air Defense Radar (Reimbursable)
- Airworthiness

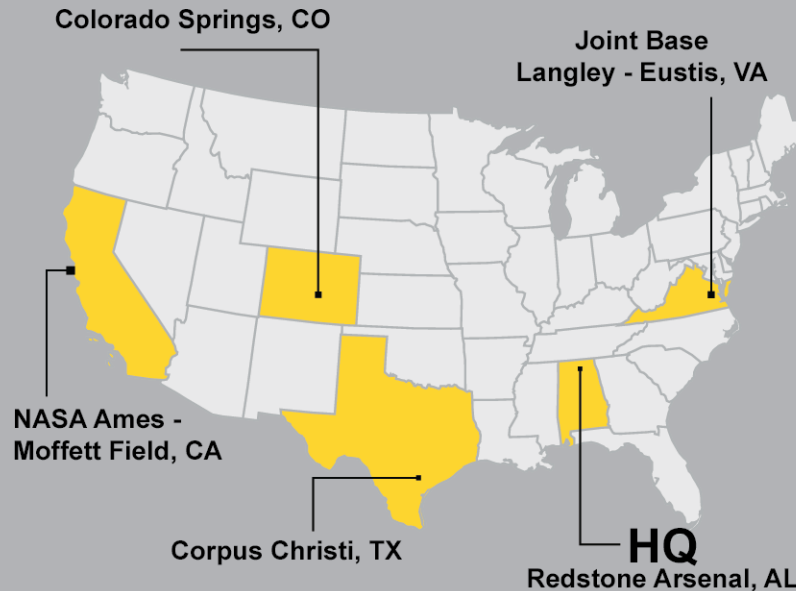
FY19 Funding
\$3.8B

6%
Aviation S&T

7%
Missile S&T

59%
Army

28%
Other





OUR PRIORITIES



#1: People

People are the Army's greatest strength and its most important weapon system.



#2: Readiness

The Army must be ready to defeat any adversary, anywhere, whenever called upon, under any condition.



#3: Modernization

The Army must modernize to remain lethal and ready to fight tomorrow, against increasingly capable adversaries and near-peer competitors.



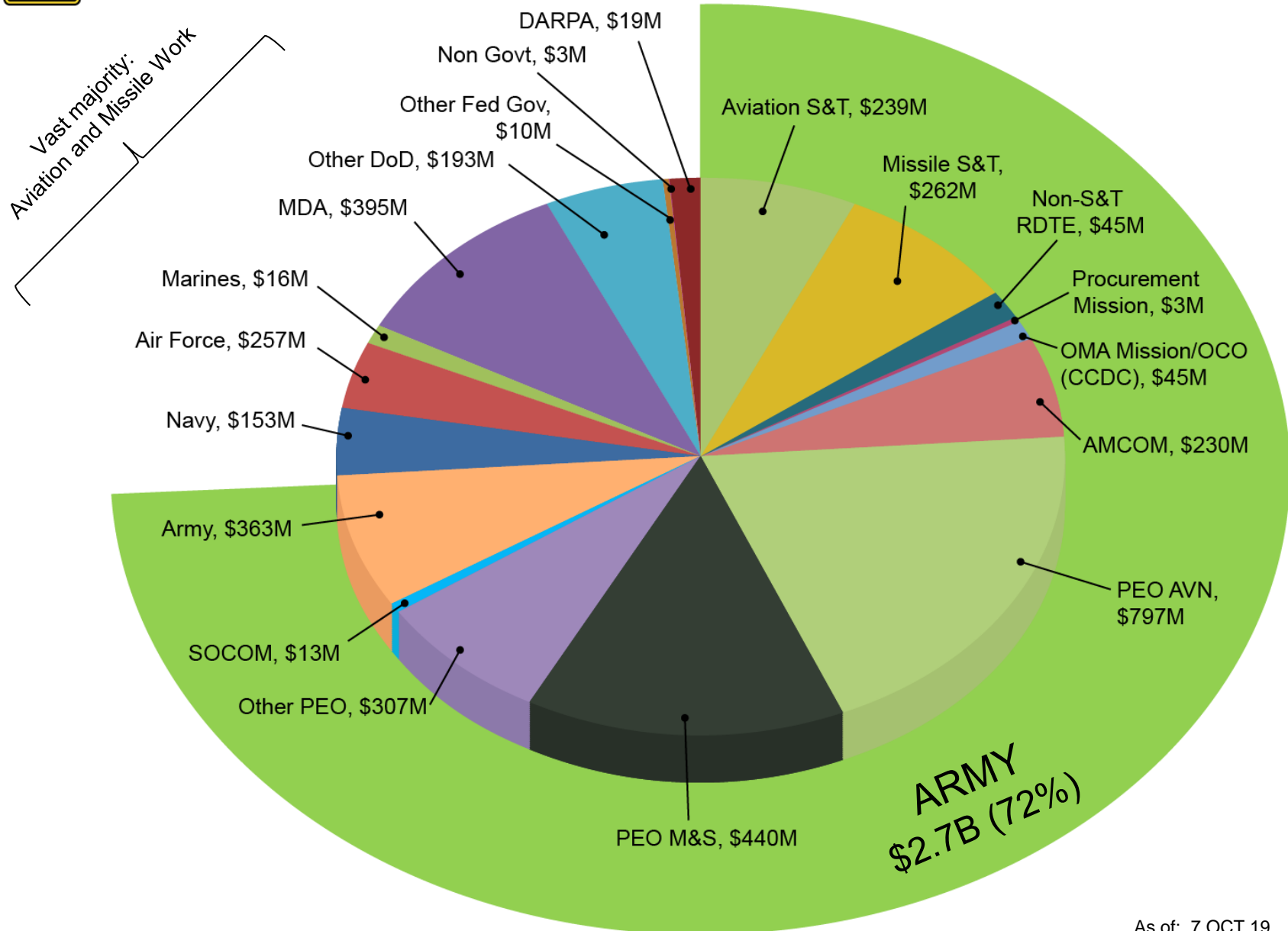
#4: Reform

The Army will improve the way we do business, including how we implement our top priorities, to make the Army more lethal, capable, and efficient.





FY19 TOTAL REVENUE (\$3.8B)



As of: 7 OCT 19



S&T PRIORITIES ALIGNED WITH THE ARMY MODERNIZATION STRATEGY



**LONG RANGE
PRECISION FIRES**



**NEXT GENERATION
COMBAT VEHICLE**



**FUTURE
VERTICAL LIFT**



**ARMY
NETWORK**



**AIR & MISSILE
DEFENSE**



**SOLDIER
LETHALITY**

Supporting Army and Joint Readiness now and in the Future MDO Environment

RESEARCH ISO FUTURE FORCE

Driving the discoveries and innovations which will be critical to realizing new capabilities for the Army of 2030 and beyond.

ANALYSIS

Conducting objective experimentation and systems analysis to support the equipping and sustaining of our Warfighters.

ENGINEERING

Providing lifecycle engineering expertise to support fleet development and readiness across warfighting battlefield operating systems.

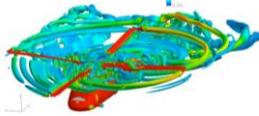


TOP AVIATION S&T INITIATIVES



PLATFORMS

- Structures
- Sustainment
- Concept Design & Assessment



MISSION SYSTEMS

- Survivability
- Avionics & Networks



VEHICLE MANAGEMENT & CONTROL AND ROTORS

- Rotors
- Vehicle Management & Control



AUTONOMOUS AND UNMANNED SYSTEMS



MAJOR PROGRAM AREAS

- Joint Multi-Role Technology Demonstration
- Degraded Visual Environment – Mitigation
- Next Generation Tactical UAS Technology Demonstration

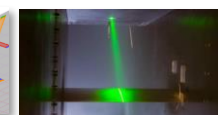
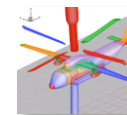


POWER



- Engines & Other Power Sources
- Drives

BASIC RESEARCH



- Computational Aeromechanics
- Experimental Aeromechanics



FUTURE VERTICAL LIFT LINES OF EFFORT



Army Aviation is committed to maintaining vertical lift dominance with the development of critical combat systems enabling the joint force to operate dispersed over wide areas with the ability to **rapidly converge** in order to **penetrate** the multiple layers of **stand-off** employed by the threat, **dis-integrate** A2/AD systems, and **exploit** this advantage with enhanced Attack/Reconnaissance, Air Assault and MEDEVAC capabilities.

FARA Capability Set 1



Future Attack Reconnaissance Aircraft: Critical combat system needed to prevail in future wars by enabling Army Aviation to achieve a “leap-ahead” in lethality, survivability, and reach to find, fix, and finish our pacing threats.

FUAS & AUAS



Future & Advanced Unmanned Aircraft Systems: Advanced teaming FVL with next generation UAS delivering lethal and non-lethal air launched effects enables cross-domain fires to penetrate and dis-integrate enemy A2AD systems and exploit expanded maneuver to overmatch peer adversaries.

FLRAA Capability Set 3



Future Long Range Assault Aircraft: Essential to exploit the windows of opportunity created by FARA and advanced teaming with UAS/ALE with its increased speed and reach providing significantly more lethal and effective Air Assault and MEDEVAC capabilities on the future battlefield.

MOSA



Modular Open Systems Architecture: The government defined Modular Open System Approach will establish the digital backbone of FVL aircraft allowing for rapid and affordable integration of innovative avionics and mission equipment technologies into our platforms.



MISSILE S&T ALIGNMENT TO ARMY MODERNIZATION PRIORITIES



Army Modernization Priorities

LONG RANGE PRECISION FIRES

Technologies for the development, integration and delivery of long range fires at the tactical, operational, and strategic echelons to restore overmatch, improve deterrence, and disrupt A2AD on a complex, contested and expanded battlefield.

AIR & MISSILE DEFENSE

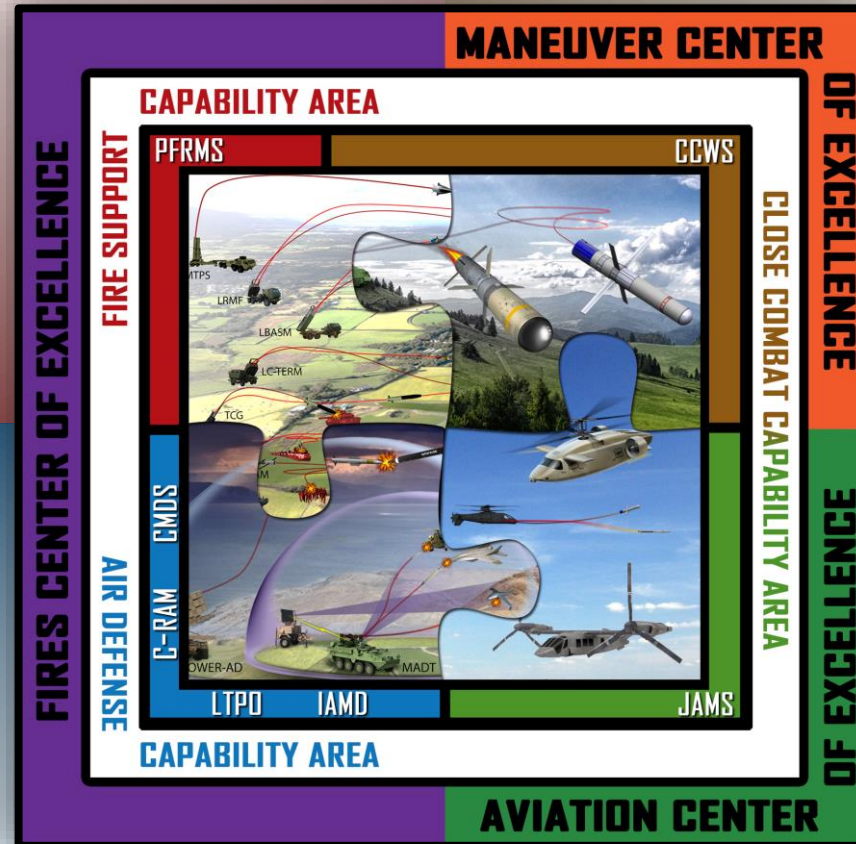
Technologies for the development of mobile air defense systems that reduce the cost curve of missile defense, restore overmatch, survive volley-fire attacks, and operate within sophisticated A2AD and contested domains.

NEXT GENERATION COMBAT VEHICLE

Technologies for active protection systems and enhanced lethal effects that will increase our ability to survive and win in the complex and densely urbanized terrain of an intensely lethal and distributed battlefield where all domains are continually contested.

FUTURE VERTICAL LIFT

Technologies for the development, integration, and delivery of aviation launched air-to-ground and air-to-air missile systems to restore overmatch within sophisticated A2AD and contested domains.



ENGAGE FIRST

EXPAND THE DOME

ON THE MOVE



CCDC AVIATION & MISSILE CENTER MISSILE S&T ALIGNED TO ARMY PRIORITIES



LONG RANGE PRECISION FIRES

TAIL-CONTROLLED
GMLRS (TCG)
TECHNOLOGY
INSERTION

LOW-COST
TACTICAL EXTENDED
RANGE MISSILE
(LC-TERM)

LAND-BASED ANTI-SHIP
MISSILE (LBASM)

LONG RANGE
MANEUVERABLE FIRES

STRATEGIC MISSILE
ADVANCED
TECHNOLOGY

NEXT GENERATION COMBAT VEHICLE

HARD KILL ACTIVE PROTECTION SYSTEM (APS)

NEXT GENERATION CLOSE COMBAT
MISSILE TECH MATURATION
(NGCCM TMI)

FUTURE VERTICAL LIFT

MODULAR MISSILE TECHNOLOGIES (MMT)
MODULAR OPEN SYSTEM ARCHITECTURE FOR MISSILES

SINGLE MULTI-MISSION ATTACK MISSILE (SMAM) TECHNOLOGIES

MULTI-ROLE GUIDED MISSILE - EXTENDED RANGE
(MRGM-ER)

MULTIPLE SIMULTANEOUS ENGAGEMENT TECHNOLOGIES (MSET)

AIR & MISSILE DEFENSE

MANEUVER AIR
DEFENSE TECH
(MADT)

DIGITAL ARRAY
RADAR TESTBED
(DART)

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

MAN-PORTABLE AIR-
DEFENSE SYSTEM
(MANPADS)

NEXGEN LOWER
TIER MISSILE
TECHNOLOGIES



QUESTIONS?



"Through teamwork, the U.S. Army will remain the most lethal, modern fighting force in the world."

Ryan D. McCarthy, Secretary of the Army





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<https://www.avmc.army.mil>

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Instagram

www.instagram.com/CCDC_AVM

Twitter

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Public Affairs

usarmy.redstone.ccdc-avmc.mbx.pao@mail.mil