



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

Overview Brief

Dr. James Kirsch

Director, DEVCOM Aviation & Missile Center

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WHO WE ARE



CORE COMPETENCIES

SCIENCE AND TECHNOLOGY:

- Aviation Platforms & Air Mobility
- Aviation Autonomy, Teaming, Avionics & Survivability
- Missile Seekers, Guidance, Navigation & Control
- Missile Materials & Structures
- Missile Propulsion, Warhead Integration & Fuzing
- Air Defense Radar & Fire Control

LIFE CYCLE ENGINEERING:

- Airworthiness
- Product Performance
- Modeling and Simulation
- Multidiscipline Acquisition and Project Engineering
- Prototype Design and Development
- Software Engineering
- Systems Engineering, Integration, and Interoperability
- Weapons Assurance



INNOVATORS. RESEARCHERS. WORLD-CLASS SCIENTISTS AND ENGINEERS.

The smart people driving the discoveries and innovations that will be critical to realizing new capabilities for the Army of 2030 and beyond.

We are AvMC. The Army's focal point for providing research, development and engineering technology and services for aviation platforms and missile systems across the life cycle.

OUR LEADERSHIP TEAM



Director
Dr. James Kirsch
(SES)



Chief of Staff
Mr. Steve Fisher



MILDEP
LTC (P) Shannon
Thompson



**Systems
Readiness
Directorate**
Mr. Keith Darrow
(SES)



**Software, Simulation,
Systems Engineering
and Integration
Directorate (A)**
Mr. David Zecher



**Technology
Development
Directorate**
Ms. Christi Dolbeer
(SES)

Scientific & Technical Positions (STs)



**Radio Frequency
Sensors**
Dr. Brian Smith



**Protective
Technologies**
Dr. Donna Joyce



**Airvehicle
Aerodynamics &
Preliminary Design**
Dr. Mahendra Bhagwat



**Rotorcraft Flight
Dynamics and
Control**
Dr. Jeffery Lusardi

WHERE WE FIT IN



Department of Defense



U.S. ARMY



Army Futures Command



DEVCOM



DEVCOM AVIATION & MISSILE CENTER



DEVCOM Aviation & Missile Center is part of the Army team, serving the Warfighter across the services.

Our higher HQ is the U.S. Army Combat Capabilities Development Command (DEVCOM), a major subordinate commander of Army Futures Command.

Our three directorates work in tandem to provide research, development and engineering technology and services for aviation platforms and missile systems across the life cycle.

Technology Development Directorate

Systems Readiness Directorate

Software, Simulation, Systems Engineering and Integration Directorate

OUR WORKFORCE



ENGINEERS

- Aerospace
- Computer
- Industrial
- Mechanical
- Electrical

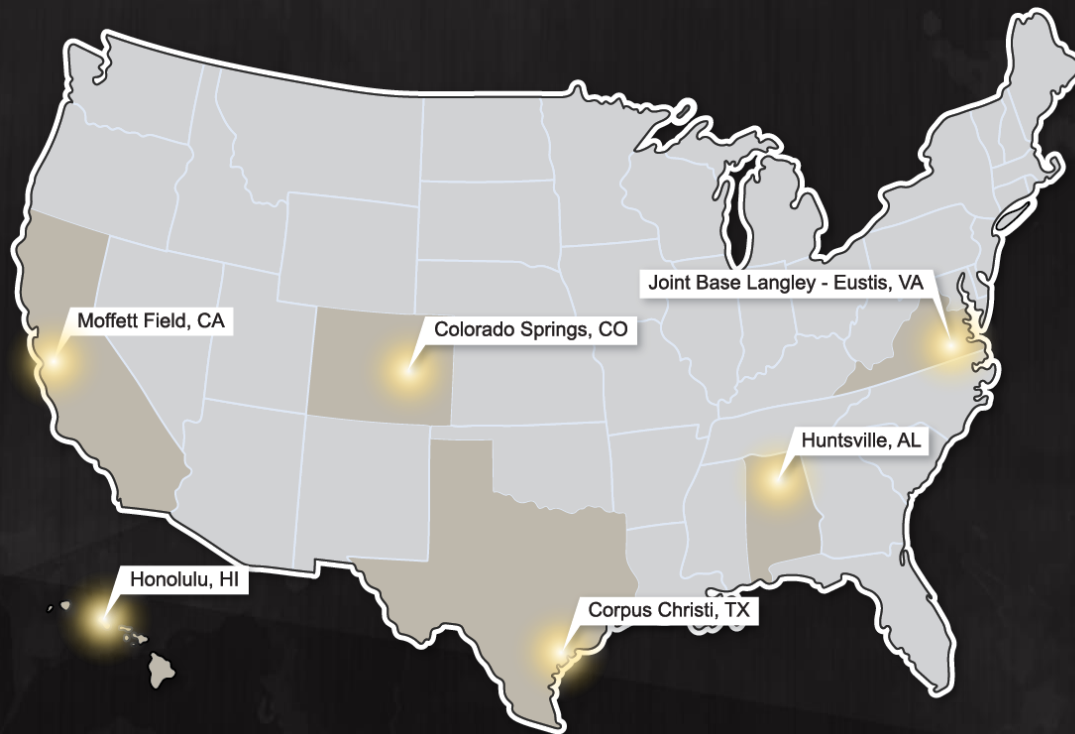
SCIENTISTS

- Computer Scientists
- Physicists
- Mathematicians

PROFESSIONALS

- Technicians
- Resource Management
- Contracting
- Information Technology
- Cyber Security
- Security & Intelligence
- Business & Administration

FY22 Strength		Civilian	Military	Contractor
12,354		3,033	19	~9,302



OUR REDSTONE FACILITIES



**OVER 1.6 MILLION
SQUARE FEET IN
LAB SPACE**



- **MCMORROW LABS**
DEVCOM AvMC HQ
- **SOFTWARE ENGINEERING**
Accredited Level 4 SEI, Software and Systems Development and Sustainment Organization
- **GUIDANCE INTEGRATION FACILITY**
Systems Functional Integration, Flight Hardware Component Verification
- **PROTOTYPE INTEGRATION FACILITY**
Rapid Response for Warfighter Solutions
- **WEAPON SCIENCES**
Basic and Applied Research in Microfabrication and Nanotechnology
- **RUSSELL TOWER**
300-foot Tall Facility for Sensor/Seeker Development and Signature Measurements
- **AUTOMATIC TEST EQUIPMENT**
Engineering and Sustainment Support of Fielded Automated Test & Diagnostic Systems
- **COMPONENT DEVELOPMENT**
Sensors, Seekers, Guidance, Navigation, and Control Development, Measurement and Processing
- **ADVANCED PROTOTYPE EXPERIMENTATION**
Warfighter-in-the-Loop Simulation Facilities for Missile, Aviation and Unmanned Systems
- **HARDWARE-IN-THE-LOOP**
Missile Component Simulation in Real-world EM Environments – Infrared, Millimeter Wave and Multi-spectral
- **PROPULSION & STRUCTURES**
Energetics Development and Enhanced Lethality

WHO WE SUPPORT



DEVCOM Aviation & Missile Center provides support to a broad range of agencies in order to serve the Warfighter.

- Air Force
- Navy
- Missile Defense Agency
- Army Materiel Command
- AMCOM
- RCCTO
- Assistant Secretary of the Army for Acquisition, Logistics, and Technology
- PEO Aviation
- PEO Missiles & Space



FY22 TOTAL REVENUE (\$4.5B)



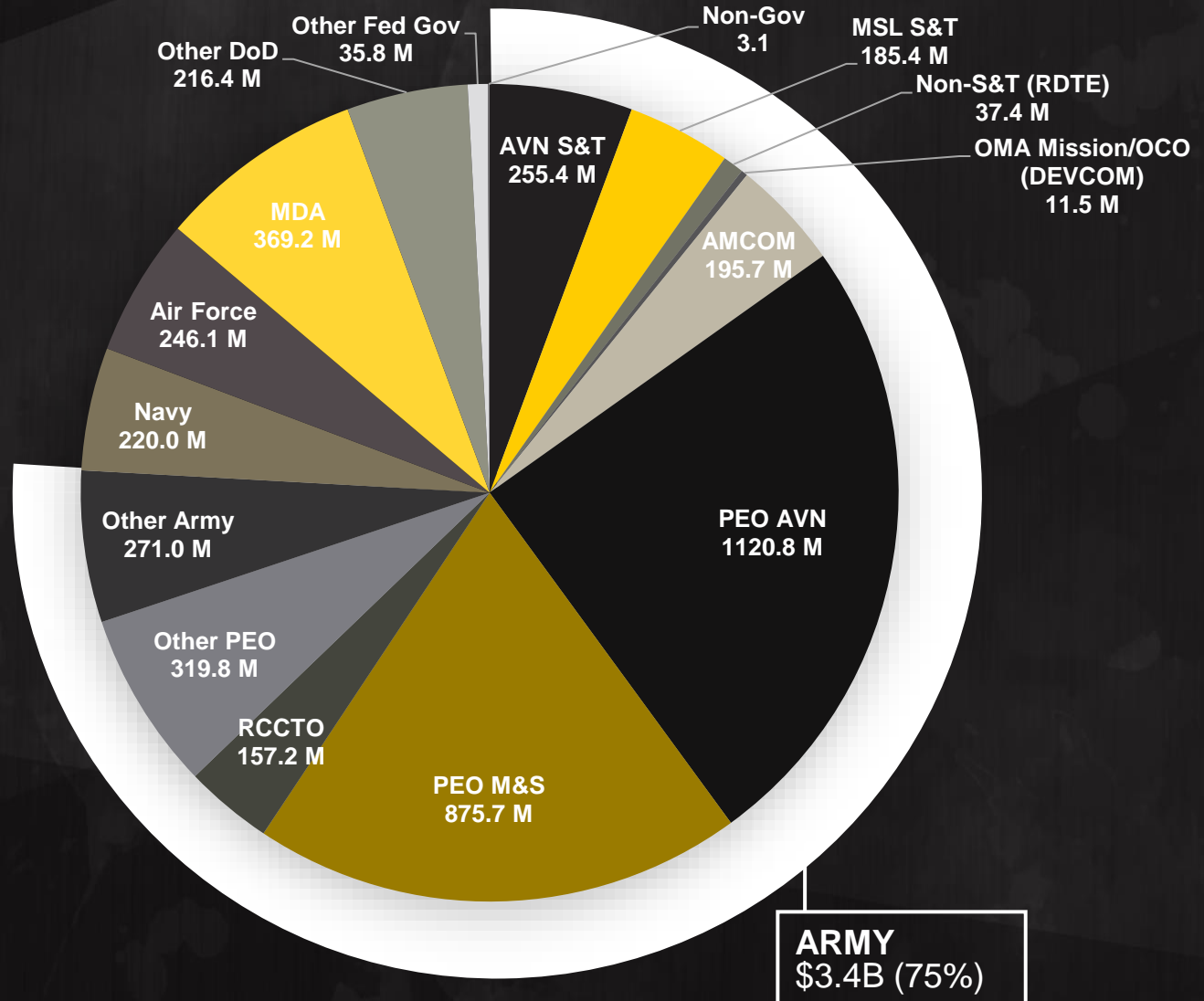
FY22 Funding
\$4.5B

Aviation S&T
 6%

Missile S&T
 4%

Army
 66%

Other
 24%



OUR DIRECTORATES



SOFTWARE, SIMULATION, SYSTEMS ENGINEERING AND INTEGRATION DIRECTORATE (S3I)

- Responsive aviation and missile total life cycle systems engineering, cyber, software, and systems simulation engineering
- Prototype Integration Facility
- Protective Technologies



TECHNOLOGY DEVELOPMENT DIRECTORATE (TDD)

- Critical technology discovery and development programs
 - Future Vertical Lift
 - Air and Missile Defense
 - Long-Range Precision Fires
 - Provides a measure of support to all Army's modernization priorities



SYSTEMS READINESS DIRECTORATE (SRD)

- The Army's delegated Airworthiness authority
- Future vertical lift programs of record
- Liaison engineers
- Life cycle engineering support from cradle to grave

AvMC PRIORITIES



01

Develop and integrate next generation technologies to ensure aviation and missile dominance.



02

Provide world class functional engineering expertise to our PEOs, MDA, RCCTO, and other critical partners.



03

Provide world class sustainment engineering expertise to our AMCOM partners.



04

Recruit and develop the engineering talent to achieve areas 1-3.

ARMY PRIORITIES



01

PEOPLE

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



02

READINESS

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



03

MODERNIZATION

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

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 IN SUPPORT OF 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 life cycle engineering expertise to support fleet development and readiness across warfighting battlefield operating systems.

S&T STRATEGY



PROTECT OUR FORCE

ON THE MOVE

BREAK THE ENEMY'S BUBBLE



**ELIMINATE A2/AD
AT ALL ECHELONS**

**REACH, RANGE,
AND SPEED**

**AGILE MANEUVER
TO CONTACT**

AVIATION S&T ALIGNMENT TO ARMY MODERNIZATION PRIORITIES



DEVCOM
AVIATION &
MISSILE CENTER



FUTURE VERTICAL LIFT (FVL) MODERNIZATION LINES OF EFFORT



FUTURE ATTACK RECONNAISSANCE AIRCRAFT (FARA)

PM FARA

- Holistic Team Survivability
- Adaptive & Resilient Tactical Autonomy Controls & Structures
- Advanced Rotorcraft Armament and Protection System (ARAPS) & FVL Radar

FUTURE LONG RANGE ASSAULT AIRCRAFT (FLRAA)

PM FLRAA

- Power & Thermal Management
- FVL Medical
- Next Generation Rotorcraft Transmission



FUTURE UNMANNED AIRCRAFT SYSTEMS (FUAS)

PM UAS

- Air Launched Effects (ALE)
- Holistic Team Survivability

PM TAGM

- Multi-Role Small Guided Missile (MRSGM)
- High Speed Maneuverable Missile (HSMM)

MODULAR OPEN SYSTEMS APPROACH (MOSA)

PM AMSA / PM ASE

- Advanced Teaming
- Integrated Mission Equipment (IME)
- Holistic Situational Awareness and Decision Making (HSA-DM)
- Full-Spectrum Targeting
- Convergence Battlefield Integration

MISSILE S&T ALIGNMENT TO ARMY MODERNIZATION PRIORITIES



ARMY MODERNIZATION PRIORITIES

FIRE SUPPORT CAPABILITY AREA

LONG RANGE PRECISION FIRES

- Strategic and Operational Rockets and Missiles (*STORM*)

AIR DEFENSE CAPABILITY AREA

AIR & MISSILE DEFENSE

- Short and Intermediate Effectors for Layered Defense (*SHIELD*)
- Search, Track, Acquire, Radiate, and Eliminate (*STARE*)
- Integrated Fires Mission Command (*IFMC*)

CLOSE COMBAT CAPABILITY AREA

NEXT GENERATION COMBAT VEHICLE

- Tactical Aviation and Ground Munitions (*TAGM*)

CLOSE COMBAT CAPABILITY AREA

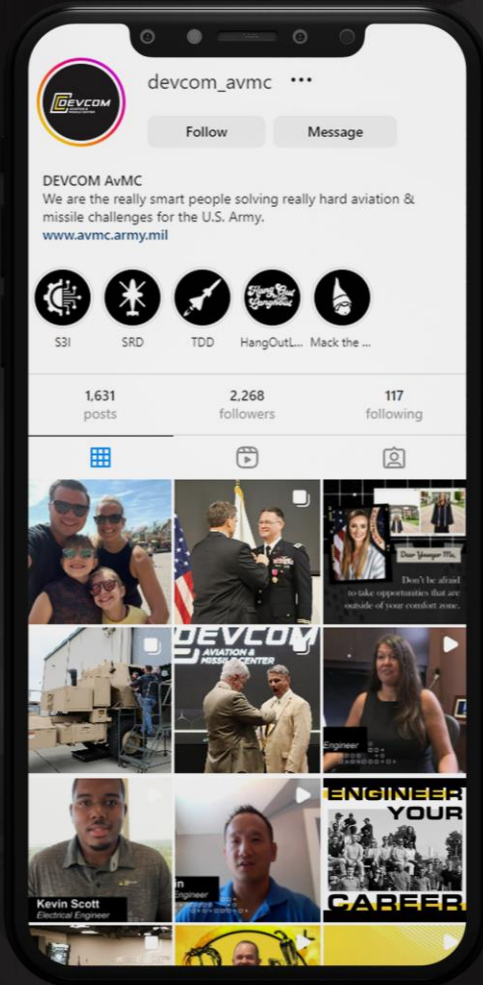
FUTURE VERTICAL LIFT

- Tactical Aviation and Ground Munitions (*TAGM*)

Maneuver Center of Excellence
 Aviation Center of Excellence
 Fires Center of Excellence



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THANK YOU.

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