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2018 NDIA Armament Systems Forum

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RDECOM ARDEC

**UNPARALLELED
COMMITMENT
& SOLUTIONS**

Act like someone's life depends on what we do.



U.S. ARMY ARMAMENT
RESEARCH, DEVELOPMENT
& ENGINEERING CENTER

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ALIGNMENT TO ARMY MODERNIZATION STRATEGY



Long Range Precision Fires



• Armaments are central to the Army's Modernization Strategy focus

Next Gen Combat Vehicle



• RDECOM-ARDEC's portfolio is fully aligned to the Modernization Priorities, either directly or as enablers

Future Vertical Lift



• The key to innovation is collaboration between:

- Government entities
- Businesses
- Non-traditional contractors
- Academia

Network



Air & Missile Defense



Soldier Lethality



Modular Handgun System (MAR 18)



XM1152/XM1153 9MM Ball & Special Purpose Cartridge (MAR 18)



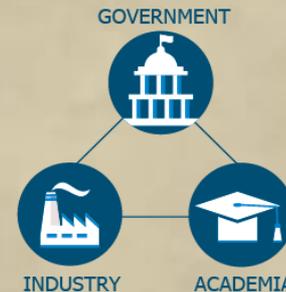
M3 MAAWS (OCT 15)



M104 Non-Lethal Grenade (SEP 16)



XM395 120mm High-Explosive Guided (APR 16)



M1156 PGK (DEC 15)



120mm Armor Piercing w/ Tracer (MAY 16)

Our Community has enabled the fielding of 262 new Ammunitions, Weapons and Equipment since 9/11



COMBAT ARMAMENT SYSTEMS



Lethality

Mobility Protection

The Armament System is central to all Combat Platforms in order to Eliminate Threats/Targets.

Threats/Targets



Combat Platform Integration



WEAPON/TURRET

How repeatable am I?



FIRE CONTROL

First Time,
How Fast?
How Precise?



Precision

Accuracy

Effects

AMMUNITION

How effective is my warhead?





U.S. ARMY
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ARMAMENT STRESSING THREATS



NEXT GENERATION COMBAT VEHICLE

- GROUND VEHICLES
- ROCKET, ARTILLERY, MISSILES (RAM)
- SMALL ARMS/SHOULDER FIRED
- EXPLOSIVE HAZARDS
- OBSTACLES/BARRIER/TUNNELS



FUTURE VERTICAL LIFT

- INTEGRATED AIR DEFENSE (IADS)
- ROCKET, ARTILLERY, MISSILES (RAM)
- SMALL ARMS/SHOULDER



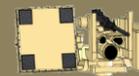
NETWORK

- ELECTRONIC WARFARE (EW)
- CYBER (OFFENSIVE)



AIR AND MISSILE DEFENSE

- INTEGRATED AIR DEFENSE (IADS)
- ROCKET, ARTILLERY, MISSILES (RAM)
- AIR SYSTEMS
- UNMANNED SYSTEMS (AERIAL)



SOLDIER LETHALITY

- SOLDIER PERSONAL PROTECTION EQUIPMENT
- SMALL ARMS/SHOULDER FIRED
- HAND GRENADES
- UNMANNED SYSTEMS
- EXPLOSIVE HAZARDS
- OBSTACLES/BARRIERS/TUNNELS



LONG RANGE PRECISION FIRES

- INTEGRATED AIR DEFENSE SYSTEMS (IADS)
- ROCKETS, ARTILLERY, MORTARS (RAM)
- MISSILES



TOP ARMAMENT NEEDS

- Higher pressure/lower wear weapon technologies across all platforms
- Extended range projectile technologies
- Novel warhead materials
- Power sources for indirect fire precision munitions
- Artificial intelligence enabled weapon fire control that reduces engagement time from target acquisition to trigger pull
- Advanced small caliber ammunition
- Drone defeat munitions fired from fielded systems
- Lightweight, high strength materials to armament guns and mounts
- Novel recoil mitigation approaches to facilitate greater lethality on lighter platforms, both manned and unmanned

ENABLING* (ACROSS ALL CFTS)

- SENSORS
- DENIAL/DECEPTION
- CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR (CBRN)
- ELECTRONIC WARFARE (EW)
- CYBER OFFENSIVE



- Armaments are central to all Combat
- Need to combine threat based with capability based planning
- To gain back overmatch, we must focus on the threat early in the development of capabilities
- Through teaming, the armaments community will continue to win the Army's wars as we have done for many years



- **Science & Technology**
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- **Cooperative R&D Agreements (CRADAs)/Patent Licenses/Testing Services/Engineering Services**
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.....Continued Dialog to Leverage Collaboration Opportunities