The NGCV Cross Functional Team

MCDID Industry Day

8-9 APR 2020

Colonel Warren Sponsler, NGCV CFT Chief Of Staff
NGCV Cross Functional Team

Future Operating Environment & Combat Vehicle Threat

Complex Operating Environment

- Complex Terrain
- Information and Urbanization
- Contested in All Domains
- Advanced Technology

How Do We Retain & Maintain Overmatch to Fight and Win on the Future Battlefield?

Increasing Lethal Battlefield

- Long Range and Massed Fires Complex
- UAS/SWARMS
- Strategic Narrative & Information Operations
- Media
- CYBER/EW
- Long Range Fires
- Top Attack/Loitering Munitions
- Armed Drone/UAS
- Air and Land Forces (Combined Arms) + HYBRID Warfare
- Aviation
- Cyber/EW
- ATGM
- Armor
- Robotics
- ATGMs
- Advanced Kinetic Energy Ammo
- Large EFP
- Underbody/Side Blast
- Advanced Medium Caliber Ammo

POC: MAJ MORRIS

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AS OF: 26 FEB 2020
## CFT Signature Effort Overview

The Next Generation Combat Vehicles (NGCV) Cross-Functional Team (CFT) leads the Army’s effort to modernize the Army’s next generation of combat vehicles.

<table>
<thead>
<tr>
<th>Optionally Manned Fighting Vehicle</th>
<th>WHAT: An optionally manned platform that replaces the Bradley Fighting Vehicle and is designed to maximize MUM-T options with RCV and other combat platforms.</th>
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</thead>
<tbody>
<tr>
<td>WHY: Maneuvers Soldiers to a point of positional advantage to engage in close combat and deliver decisive lethality during the execution of combined arms maneuver, while simultaneously controlling maneuver robotics and semi-autonomous systems. Revolutionary in its future ability to control and pair with Robotic Combat Vehicles in an MDO environment.</td>
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<td>HOW: Emphasis on future size, weight, architecture, power, and cooling growth. Field the vehicle in increments to allow for the continued incorporation of technological innovations.</td>
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<th>Robotic Combat Vehicles</th>
<th>WHAT: Light, Medium, and Heavy Robotic Combat Vehicles that deliver decisive lethality, increased situational awareness, and formation overmatch in a future multi-domain battle operational environment.</th>
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<td>WHY: Stretches the multi-domain operations close area; allows unmanned platforms make contact with the enemy before our Soldiers, while achieving overmatch (decisive mobility, survivability, and lethality) against future operating environment threats.</td>
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<td>HOW: Three (3) increasingly complex experimentations and capability demonstrations, involving both government and industry platforms, between FY20-24. Decision to procure or continue experimenting on initial RCV capability NLT FY24.</td>
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<th>Armored Multi-Purpose Vehicle</th>
<th>WHAT: Replacement for M113 Family of Vehicles in Armored Brigade Combat Teams</th>
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<td>WHY: Provides ABCTs with modern and more survivable General-Purpose, Mortar Carrier, Medical Evacuation, Medical Treatment, and Mission Command vehicles that can move at the pace of next generation combat vehicles and is able to incorporate future technologies.</td>
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<td>HOW: New vehicle build; design based on Bradley chassis with ability to integrate future technologies. First operational unit equipped FY22.</td>
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<th>Mobile Protected Firepower</th>
<th>WHAT: An armored vehicle (light tank) that provides precise, large caliber, long range direct fires for Infantry Brigade Combat Teams.</th>
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<td>WHY: Improve Infantry Brigade Combat Team protection and firepower capabilities; e.g. neutralize prepared positions, heavy machine guns, and armored vehicle threats.</td>
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<td>HOW: Accelerated acquisition; leverage and integrate existing and mature combat systems. First operational unit equipped in FY25.</td>
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| Optionally Manned Tank | CFT Requirements and Army Science Board studies started in FY2019; GVSC study in FY2020. |
Developing Ground Combat Vehicles for the Future Fight

Sensors
- Improved Range Detection and Identification
- 360° Situational Awareness
- Aided Target Detection/Recognition
- Multi-purpose
- Small Unmanned Aerial & Ground Systems

Lethality
- Threat-based
- Optimized for Urban and Complex Terrain
- Commander’s Independent Weapon Systems
- Intelligent, Integrated Fire Control
- Improved Munitions
- BLOS capabilities

Protection
- Improved Signature Management
- Active Protection Systems
- Improved Armors
- Chemical, Biological, Nuclear, Radiological, & Explosive (CBRNE) Protection
- Adaptable to the Changing Threat

Sustainment
- Streamlined Maintenance and Reliability
- Advanced Prognostics/Diagnostics
- Series Hybrid Drivetrains
- Commonality
- Improved Operational Reliability
- Semi-independent operations; Reduced Logistics Tail

Mobility
- Optionally Manned or Robotic Vehicles
- Advanced Powertrain and Running Gear
- Consistent X-Country Speed
- Reduced Weight
- Rapidly Deployable

Computing
- Open Architectures
- Software-based Capabilities
- Hardened and Resilient
- Growth Potential

Battle Management
- Common Network
- Enhanced Decision-Making
- Maximize On-board Compute Power
- Reduced Crew Cognitive Load
- Warrior-Machine Interfaces

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NGCV Cross Functional Team

Cross Functional Team S&T Methodology

Research, Development, Test, and Evaluation (RDTE)

Technology & Requirements Development
NGCV CFT, CCDC, COE/CDID, Industry, Academic Partners

- Basic Research (6.1)
- Applied Research (6.2)
- Advanced Tech Development (6.3)
- Demonstration, Prototyping & Validation (6.4)

Initial Knowledge Transition Agreement
Final Knowledge / Transition Agreement
Modeling and Simulation
Test & Evaluation

NGCV CFT S&T Lines of Effort Prioritization
1. Gain/Maintain Decisive Lethality Overmatch
2. Robotics & Autonomous Systems
3. Armor & Active Protection Systems
4. Ground Vehicle Performance
5. Non-LOE (DoD/Army Core Competencies)

NGCV-CFT, Combat Capabilities Development Command (CCDC), DASA R&T and stakeholders review performance biannually & new starts annually

Platforms Integration
PEO GCS and PMS (6.5)
- Optionally Manned Fighting Vehicle
- Robotic Combat Vehicle
- Mobile Protected Firepower
- Armored Multi-Purpose Vehicle
- Optionally Manned Tank

Deliver Capabilities to the Army (PEO GCS)

Research, Development, Test, and Evaluation (RDTE)
How to get ahold of the NGCV-CFT

If you have a technology or capability that fits within the combat vehicle portfolio and are not otherwise already doing business with the Government, please contact our general mailbox at usarmy.detroit.ccdc-gvsc.mbx.ngcv-cft@mail.mil so we can set up a time to discuss your product(s).

If you are new to Government contracting or would like mentorship on how to do business with the Government, please contact your local regional Procurement Technical Assistance Center (PTAC) by visiting https://www.dla.mil/SmallBusiness/PTAP/PTAC/. 