



DEPARTMENT OF THE ARMY  
HEADQUARTERS UNITED STATES ARMY MANEUVER CENTER OF EXCELLENCE  
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FORT BENNING, GEORGIA 31905-4500

REPLY TO  
ATTENTION OF

ATZB-CI

28 July 2010

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Army Unmanned Ground Vehicle Strategy

1. Reference memorandum, HQ, U.S. Army Training and Doctrine Command, Army Capabilities Integration Center, 21 July 2009, subject: TRADOC Lead Agency for Ground Robotics.
2. Purpose: To inform the Army leadership of the Ground Robotics Strategy.
3. Background: On 21 July 2009, LTG Vane designated the Maneuver Center of Excellence (MCoE) TRADOC Lead for ground robotics. The Army cannot afford to continue to pursue stand-alone unmanned systems through ONS and Contingency purchases. The Army must develop sustainable programs of record to fill current and future capability gaps. The UAS community has led the way with common platforms and modular payloads to meet requirements across the warfighting functions. Unmanned Ground Systems must improve in the areas of modularity, autonomy, interoperability, coordination, and collaboration across the Network to provide increase persistence, endurance, and protection for the Force. The single most important benefit of Unmanned Systems is their contribution to Soldier survivability. The MCoE has coordinated with all other Army Centers of Excellence, and the United States Marine Corps (USMC) as core members of the Joint Ground Robotics Integration team (JGRIT), on the development of an Army Strategy for Unmanned Ground Systems.
4. Discussion:
  - a. The strategy consists of five modular ground robotics capability sets:
    - (1) Soldier Transportable-this includes Single Soldier portable systems from small robots that fit into a MOLLE type carrier.
    - (2) Crew Served-this includes robotics systems where the system's operational configuration is divided among two or more Soldiers for transport.
    - (3) Vehicle Transportable - this includes larger robots that must be transported to the task location by another vehicle.
    - (4) Self Transportable-this includes systems that will transport themselves to the task location, volume, speed, and weight are based on the formation the robotic system supports, for example, the Soldier follower (~<5000 lbs or UH-60 transportable/IBCT), Medium Wingman (SBCT), and Heavy Wingman (HBCT).

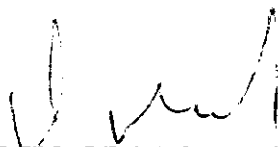
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(5) Appliqué Systems - these are add on systems that provide unmanned capabilities to current manned vehicles with or without autonomous navigation systems in remotely operated, Supervised Autonomy, and full autonomy. The exoskeleton is also classified as an appliqué kit for a Soldier.

b. Within each of these capability sets (UGV family), the common platform has modular payloads that define its roles and missions, to include, but not limited to Counter IED (CIED), Reconnaissance, Surveillance, and Targeting Acquisition (RSTA), Lethality, Cargo, Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE), Medical, Mission command, or Network Extension. Our priority is to quickly develop the Capability Development Documents (CDDs) to generate sustainable programs of record managed by the Robotic Systems Joint Project Office (RS-JPO) to meet the needs of the Soldier from today through 2035 with the best material solution available. The modular approach will be the most cost effective use of our resources, since many robotic technologies can be common across all of the capability sets (common controller, integrating software, communications, and autonomous behaviors).

c. ARCIC has tasked the MCoE to develop this strategy into an Unmanned Ground Systems Campaign Plan by 4Q10. The MCoE will include the core JGRIT members in this effort. This campaign plan, covering the years from 2010-2035, is currently in draft and follows both the OSD Joint Unmanned Systems Roadmap (2009) and the Unmanned Systems (Air, Ground, and Maritime) ICD (2010). The Unmanned Ground Vehicle Campaign Plan is closely modeled off of the approved Army UAS Roadmap (2009-2034).

5. MCoE point of contact is MAJ Brett Lord, Electronics and Special Developments Branch, Soldier Requirements Division, (706) 545-8343, DSN 835-8343, brett.lord@us.army.mil.



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