



OVERWATCH ACTD

Overwatch Advanced Concept Technology Demonstration



Summary

- Provides Warfighter with real-time, actionable, and targetable information
- Provides target location to support precision engagement and reduce collateral damage
- Disseminates and displays a consistent Blue Force Situation Picture with Future Battle Command Brigade and Below (FBCB2)
- Collects photographic and video evidence for follow-on operations and contributes to the ground Common Operational Picture
- Provides Theater focused Concept of Operations for Peacekeeping and Urban Missions

The Overwatch ACTD provides ground forces with actionable information of hostile fire events (e.g., direct fire weapons, Rocket Propelled Grenades (RPG), mortars) in real-time to counter attack.

Overwatch is an approved FY-03 ACTD sponsored by the U.S. Pacific Command. The ACTD employs the Battlefield Ordnance Awareness (BOA) passive infrared and processing technologies developed by the Army to locate hostile fire in real-time and provide the dismounted troops actionable information to counter the threat. The sensor targeting package is integrated with military communications systems, video, and mounted onto a High Mobility Multi-purpose Wheeled Vehicle (HMMWV) to complete the Overwatch concept. Once the hostile fire is automatically detected and identified by weapons type, an imager confirms the target. Warfighters receive information via tactical communications or directly. The Overwatch ACTD will provide an Initial Operational Capability by FY06 delivering a future force capability to engage and provide force protection through increased situational awareness.

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SMD-TC
Space & Missile Defense
Technical Center

Overview

The primary objective of the Overwatch ACTD is to demonstrate, with Pacific Command (PACOM) warfighters, an operational sensor targeting capability to detect, classify and accurately locate direct fire weapons in real-time and transmit that information to a command and control (C2) element in support of ground forces operating in urban and complex terrain. The sensor targeting system, using appropriate Concept of Operations (CONOPS) and refined Tactics, Techniques, and Procedures (TTPs) will provide a decisive capability to ground forces which will enhance engagement of specific threats, force protection, and rapid situational understanding in support of Joint Operations. The Overwatch ACTD provides an Initial Operational Capability (IOC) by FY06. Demonstration platforms for the ACTD are the HMMWV for Major System Demonstration 1 (MSD 1) and the United States Marine Corp (USMC) Gladiator Unmanned Ground Vehicle (UGV) for MSD 2.

Benefits for Tomorrow's Defense

Overwatch will provide timely and precise knowledge at the point of decision to Joint Ground Commanders to enable them to understand the battlespace and to direct actions. The emphasis will be on offering improved capability for engagement, force protection, and maneuver in current operating environments. The Overwatch ACTD will provide a capability that:

- Increases convoy and traffic control/checkpoint security
- Improves Peacekeeping, Counterterrorism, Stability and Support Operations (SASO), and Military Operations in Urban Terrain (MOUT)
- Enhances Airbase and Forward Base Security
- Supports improved freedom of action for friendly forces
- Provides better protection at all echelons
- Contributes to the common operational picture
- Decreases counterfire reaction time
- Collect photographic evidence
- Enables precision engagement and reduces collateral damage

Technical Concept

The ACTD will demonstrate a robust capability to locate a hostile threat which reduces risks and enhances mission effectiveness by providing the deployed forces with a passive reconnaissance and surveillance system. The system will be capable of surveying the target area and accurately locating active weapons within its field of view. In the force protection role, Overwatch will allow a small unit (e.g., dismounted infantry platoons, Military Police teams, and long-range surveillance detachments) to develop and contain the situation and then make contact at the time and place of its own choosing. The ACTD will leverage existing force architecture to provide information to dismounted forces or directly to warfighters.

The initial prototype, Weapon Surveillance System/Small Tactical Arms Recognition Equipment, is undergoing an operational assessment in current operations. Lessons learned from deployment will be incorporated into the Overwatch system design supporting MSD1. The capability being developed is readily adaptable to support airborne and security operations plus add other threats (e.g. MANPADS, Tactical Missiles) as required.



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