

# PMCCS

PRODUCT MANAGER  
**CMSEOD**  
COUNTERMINE & EOD



PROJECT MANAGER CLOSE COMBAT SYSTEMS

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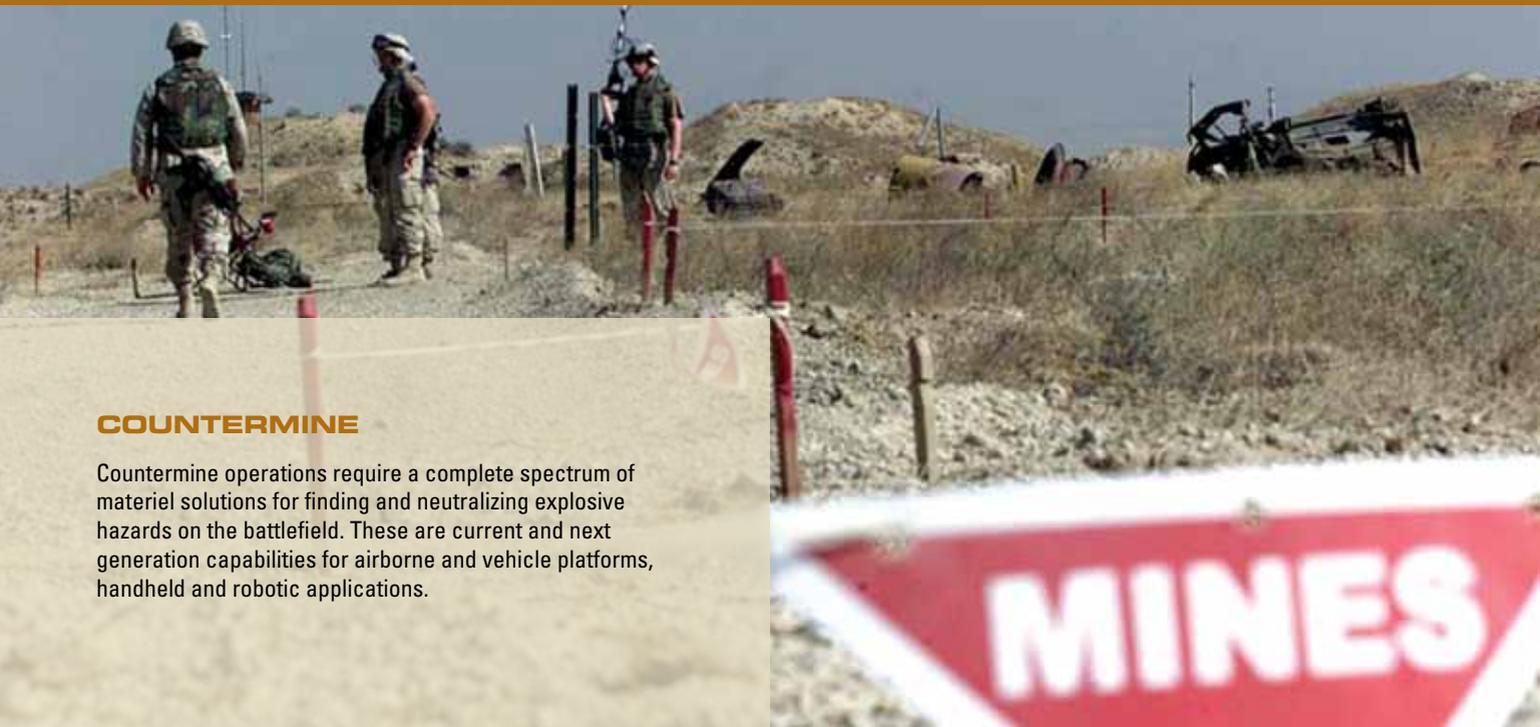


**COUNTERMINE & EXPLOSIVE ORDNANCE DEVICES**

## VEHICLE OPTICS SENSOR SYSTEM (VOSS): AN EYE OPENING SUCCESS

**Eliminating the number one threat** in Iraq, Improvised Explosive Devices (IEDs), is the job of the Army's Combat Engineers Route Clearance and EOD Teams. They rely primarily on **visual detection** of suspected IEDs. The VOSS – a **vehicle mounted optics capability** – gives them the ability to **detect IEDs** from a greater standoff distance than previously achievable. Responding to Joint Urgent Operational Needs from both Iraq and Afghanistan, Product Manager Countermine & EOD (PM CM&EOD) has procured, shipped and installed **over 200 VOSS systems** and trained Soldiers in their use.

A new production contract will increase procurement to more than 500 systems and provide repair parts for all the VOSS systems in theater. The sustainment concept to forward deploy all spares parts for the VOSS has resulted in a **95 percent operational readiness rate**. The VOSS itself has enabled Soldiers to meet the demands of quickly changing tactics, techniques and procedures for route clearance operations in an asymmetric war. VOSS has been recognized as an Army **Top Ten Greatest Invention** for 2007.



### COUNTERMINE

Countermine operations require a complete spectrum of materiel solutions for finding and neutralizing explosive hazards on the battlefield. These are current and next generation capabilities for airborne and vehicle platforms, handheld and robotic applications.

## **AN/PSS-14 MINE DETECTING SET**

**“AN/PSS-14 has expanded the range of mine types Soldiers can detect and increased hand-held mine detection efficiency.”**

*~ Army AL&T Magazine, Jan-March 2007*

AN/PSS-14 employs a state-of-the-art metal detector and ground penetrating radar, coupled with an advanced microprocessor array and software, to achieve a high probability of detection (in excess of 95 percent) for both large and small metallic and low-metallic antitank (AT) and antipersonnel (AP) mines. Over 5,000 detectors have been fielded to deploying units in support of Operations Iraqi Freedom and Enduring Freedom. The result is a greatly improved capability that protects Soldiers and enhances their ability to detect landmines.



## **AIRBORNE SURVEILLANCE TARGET ACQUISITION AND MINEFIELD DETECTION SYSTEM (ASTAMIDS)**

ASTAMIDS, a Future Combat Systems (FCS) complementary program, will give Army Brigade Combat Teams unprecedented situational awareness and target designation capabilities. The multi-mission/multi-mode airborne payload sensor package combines day/night minefield and obstacle detection with Reconnaissance, Surveillance, Target Acquisition and Laser Designator capabilities in a single common payload weighing approximately 80 pounds. It provides high-quality, high-resolution, multi-spectral infrared electro-optical digital imagery using fast step-stare technology. ASTAMIDS is the primary brigade/battalion level Intelligence, Surveillance, and Reconnaissance sensor payload for the FCS Class IV MQ-8B Fire Scout Unmanned Aerial System.

## **GROUND STANDOFF MINE DETECTION SYSTEM - FUTURE COMBAT SYSTEM (GSTAMIDS-FCS)**

The GSTAMIDS-FCS spiral development program offers the best-of-industry technologies in successive blocks, allowing PM CM & EOD to field a near-term capability while pursuing solutions to the greater technical challenges to vehicle-mounted mine detection. In support of the Engineer School's Assured Mobility Concept in forward areas, the Brigade Combat Team will need to conduct countermine operations. GSTAMIDS-FCS, installed on two Multifunction Utility/Logistics Equipment (MULE) countermine vehicles, will detect and mark mines, temporarily mark the lane and bypass or neutralize AT mines along a 4-meter path on primary and secondary roads at a speed of 5-15 kph. The MULEs will be remotely controlled by a manned ground vehicle and will proceed forward at maximum speed to a region of interest (ROI) as defined by situational awareness, perform its mission, then proceed to the next ROI.

## AUTONOMOUS MINE DETECTION SYSTEM (AMDS)

The AMDS consists of a suite of three payload modules that are envisioned to be integrated onto current and future man-portable unmanned ground vehicles:

1. Mine Detection and Marking Payload Module – remotely detects and marks surface laid and buried metallic and low-metallic AT and AP landmines and scatterable munitions
2. Explosive Hazards Detection and Marking Payload Module – remotely detects and marks surface laid, partially buried and camouflaged explosive hazards
3. Neutralization Payload Module – remotely neutralizes surface laid, buried and camouflaged explosive hazards

Together, AMDS will give the Army unprecedented capability to detect and neutralize threats from a safe distance.

## AREA MINE CLEARANCE SYSTEM: AARDVARK AND HYDREMA

Aardvark is an armored countermine vehicle that uses 72 chains with striker tips to detonate or break apart landmines. It can withstand landmines with up to 10 kg net explosive weight. Aardvark clears a path roughly 10 feet wide and one foot deep, clearing up to 377 feet of land per hour.

The Hydrema flail has a protective metal shield and also uses 72 heavy chains to unearth, destroy or detonate mines on contact. It can clear an 11-foot wide track on firm ground such as roads and runways.

## VEHICLE INTERROGATION ARM

The IED Vehicle Interrogation Arm provides standoff detection of IEDs using a probing/digging tool to expose objects and a metal detector/visible camera to identify targets. It has a working range of more than 26 feet and is capable of moving objects up to 200 pounds. This arm can be used on both the RG-31 and Husky counter-IED vehicles, having the same capabilities for each platform.

## VEHICLE OPTICS SENSOR SYSTEM (VOSS)

Attached to either the RG-31 or JERRV mine clearance vehicles, the powerful VOSS network of daytime TV, night vision and thermal capabilities is able to locate IEDs, snipers and other threats at greater stand-off distances. A stabilized camera detects IEDs while mobile, both day and night. The camera's ability to record video of operations allows for after action review, training and mission briefing for route clearance operations.



## EXPLOSIVE ORDNANCE DISPOSAL (EOD) EQUIPMENT

Army EOD falls into the Joint Service EOD arena; the technicians from all services train and fight together, a unique quality of EOD. The Army EOD program deals with the Army EOD technician, mission equipment and any special tools needed to complete a multitude of render safe missions dealing with unexploded ordnance or IEDs. The program has grown tenfold since 2003 due to mission growth and the Global War on Terror. Tools and equipment managed consist of X-ray machines, man-transportable robots, stand-off disrupters, firing devices, response kits and platoon supplemental kits.



### EOD RESPONSE KIT

The EOD Response Kit consolidates four separate EOD tool sets that eliminate duplication. The kit is configured into separately packaged functional mission modules including general demolition, technical intelligence and IED search.

### PLATOON SUPPLEMENTAL KIT

This kit provides tools in addition to those in the EOD Response Kit including a 300 KVP X-ray source for greater penetration than the current 150 KVP chemical/biological incident response equipment, special expendable charge containers that can be packed with C4 or det cord for vehicle entry and disruption of IEDs and an up-to-date borescope.



## MANUAL TRANSPORT ROBOTIC SYSTEM

This lightweight 2-man-portable robotic system gives Soldiers the capability to perform reconnaissance, surveillance and target acquisition on battlefields or in peacetime urban scenarios in nuclear, biological and chemical environments.



## MK 41 MOD 1 ADVANCED RADIOGRAPHIC SYSTEM (ARS)

The ARS is a lightweight film-less radiographic system that obtains, enhances and records images of internal structures of IEDs and unexploded ordnance for identification.

## MK 3 MOD 0 REMOTE ORDNANCE NEUTRALIZATION SYSTEM (RONS)

RONS provides EOD teams with a peacetime/wartime remote standoff capability to perform EOD missions such as reconnaissance, access to site, remote render safe procedure, "pick-up and carry away" and disposal tasks in a high-risk and/or contaminated environment.