



Precision Strike Association & NDIA Picatinny Chapter

Intelligent Munitions System (IMS)

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PM CCS Mission

Provide the Warfighter world-class close combat, force protection & assured mobility capabilities across full spectrum operations through professional, integrated Joint Life-Cycle Management.



Intelligent Munitions System (IMS)

Characteristics (1 of 2)

- **IMS SYSTEM CHARACTERISTICS:**
 - Evolutionary acquisition program developed in an incremental approach
 - An integrated system of sensors, lethal anti-vehicle (AV) and anti-personnel (AP) munitions, software & communications
 - Capable of employment for the detection, classification, tracking, and engagement of ground targets
 - Operational Capabilities:
 - Force Protection
 - Networked Lethality
 - Enables Assured Mobility
 - Enhances Situational Understanding
 - Denies the enemy freedom of action
 - Enables the Urban fight



Intelligent Munitions System (IMS)

Characteristics (2 of 2)

- Provides the Force with a networked munitions system that provides enhanced capabilities over traditional stationary obstacle/barrier systems
- IMS supports transitions, hasty and deliberate defense, cordon and search, isolation of urban areas, route and convoy security, thereby enabling a scalable response as situations develop
- IMS will protect the Force during operations by tailoring protective counter-mobility and survivability support as well as by providing temporary and fixed site security
- IMS is a building block that can be used to emplace larger fields and cordon/isolate urban areas through means of persistent surveillance and screening

Anti-Vehicle/ Anti-Tank System



System Overview

PM CLOSE COMBAT SYSTEMS

Command & Control (C2)

- Via handheld controller
- Can control other munitions
- Spider radio as interim for Joint Tactical Radio System



Control Station



1500-3800 m

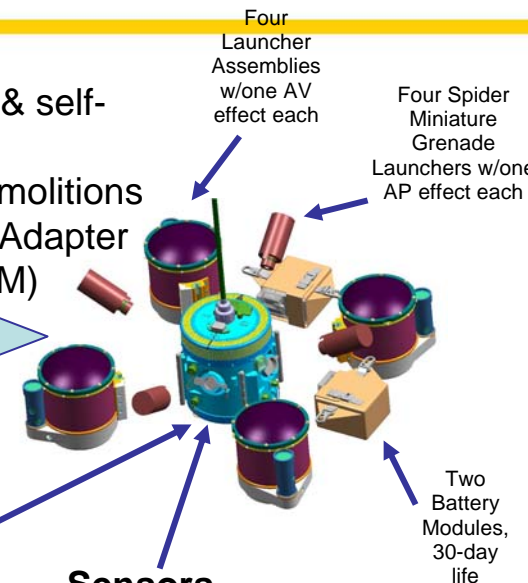
Dispensing Module(DM)

- Hand-emplaced
- 100m protective obstacle
- Employed in 5 minutes
- 145 lbs (max), 24"x24"x14.5"

Effects

- Lethal AV & self-protect AP
- Initiate Demolitions
- Munitions Adapter Module (MAM)

Modular Components



Effects Electronics Module

- Provides central C2 in the field
- Sensor fusion
- Munition controller

Sensors

- Enable coordinated attack
- Acoustic, seismic, & terminal sensors

System Capabilities

- Self-Destruct & Self-Deactivate
- ON-OFF-ON — “Safe Passage”
- Transfer of control
- Large lethal engagement (100m)
- Provides situational awareness information
- Re-usable, modular design reduces log footprint
- 30-day operational life (tactical)
- Immediate kill “out of the box”
- Multiple DMs can create larger field



IMS Area of Influence

PM CLOSE COMBAT SYSTEMS

Effective Situational Awareness Coverage (200m radius)

Effective Lethal Range of AV Effect (50m radius)

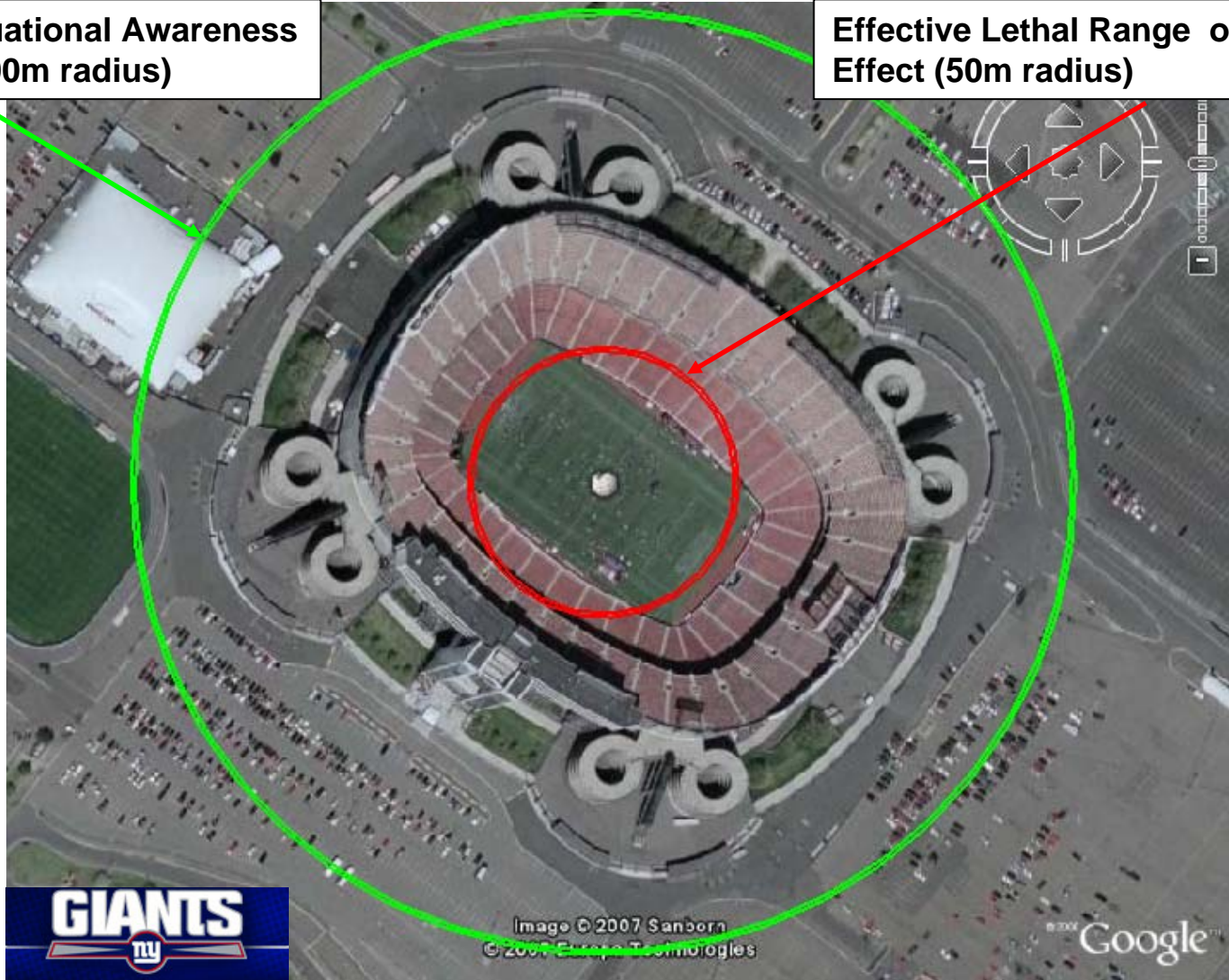
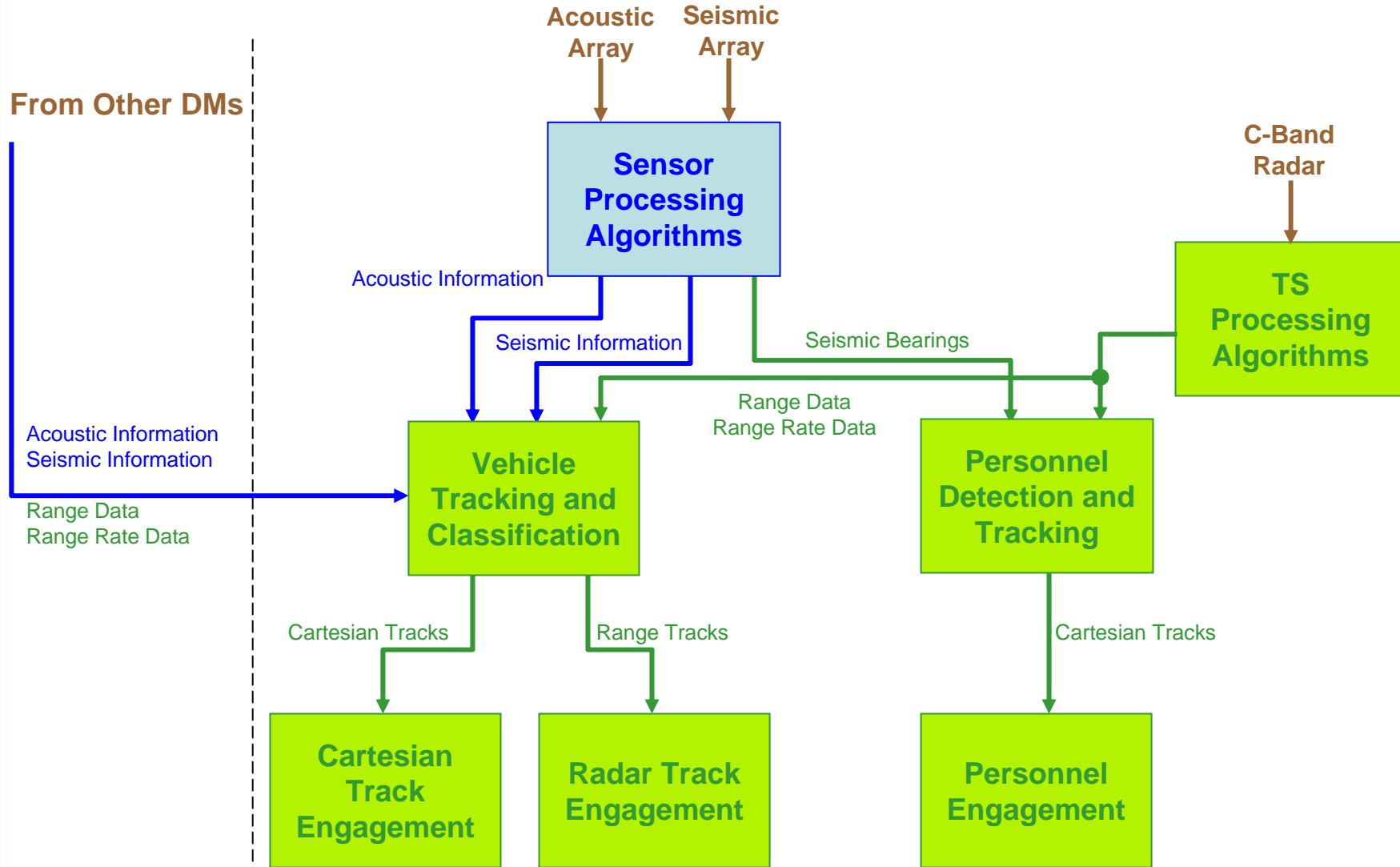


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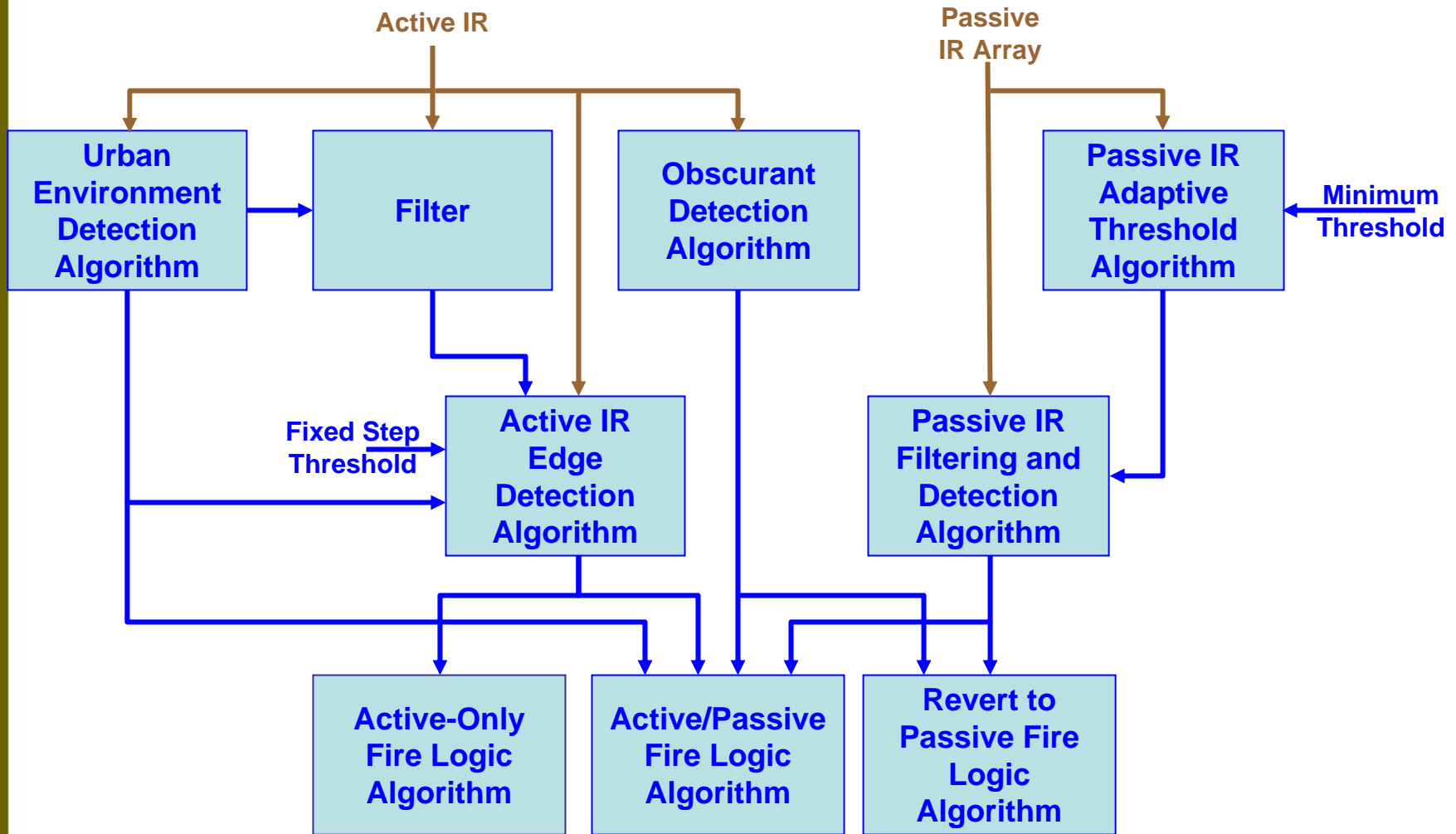


Ground Algorithm





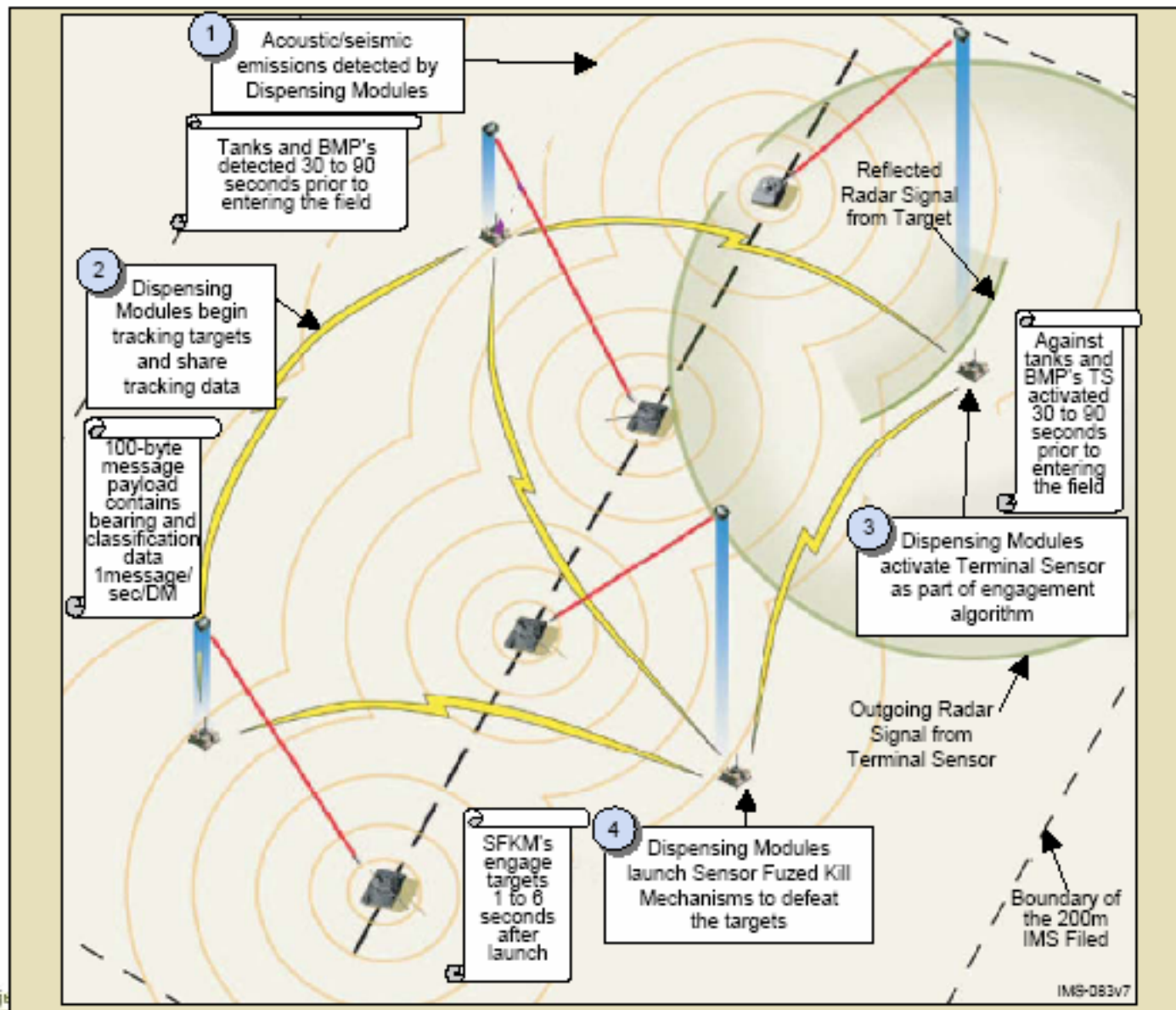
Airborne Algorithm



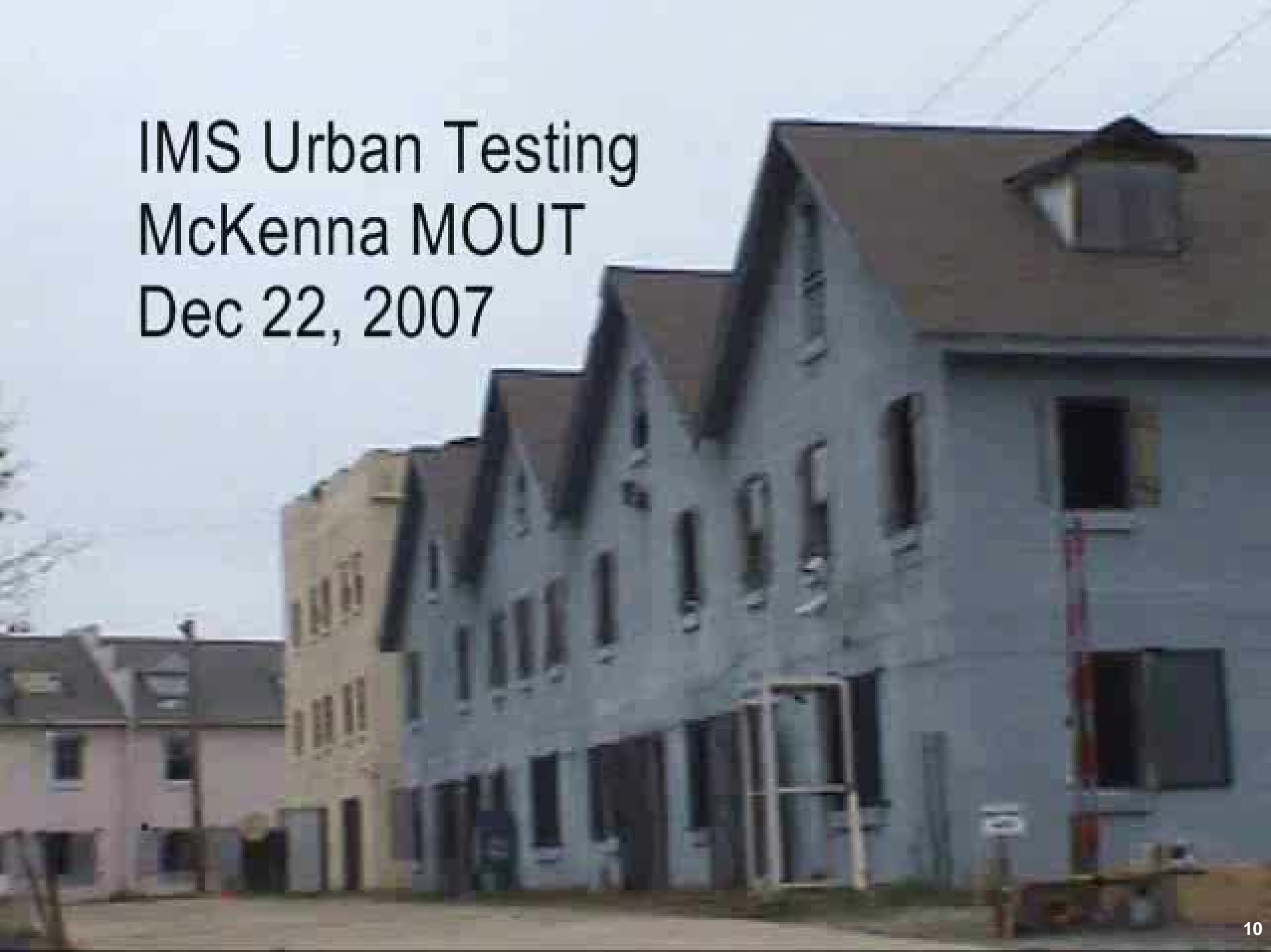


IMS Vehicle Engagement

- Detects, classifies & tracks using acoustic & seismic sensors
- Engages using Terminal Sensor (radar) & tracking data
- Launches SFKM
- SFKM uses active/passive infrared sensor to detect vulnerable region of target
- SFKM initiates a copper combined effects warhead to defeat both heavily & lightly armored targets



IMS Urban Testing
McKenna MOUT
Dec 22, 2007

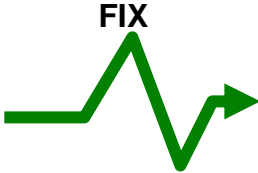




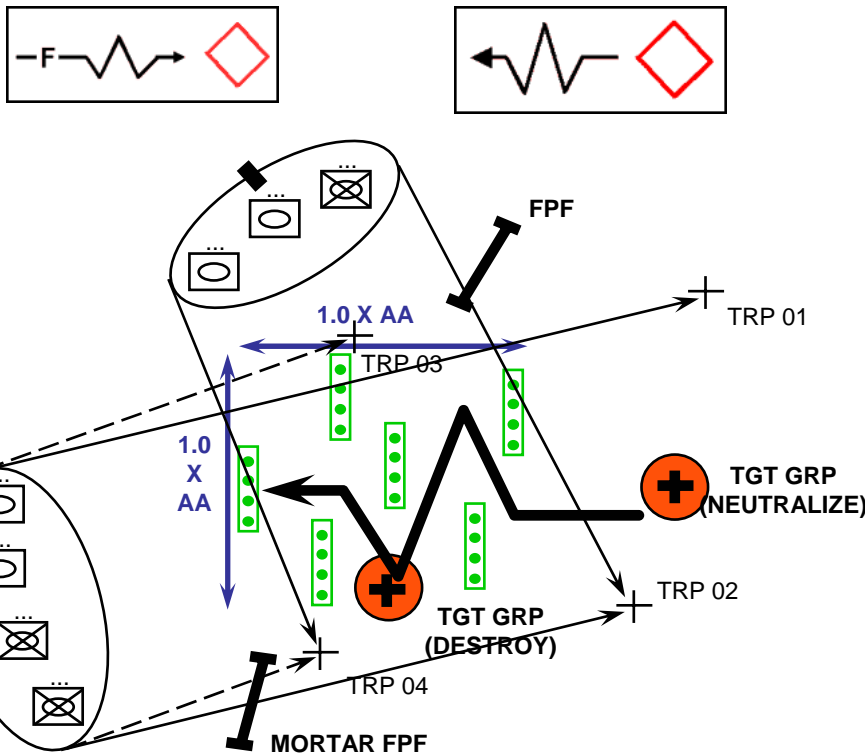
Tactics and Obstacle Effects

- **IMS can be deployed in multiple ways to fit the Warfighter's needs**
 - Offensive / defensive engagements
 - Open field and complex urban situations
 - Hasty Protection
- **IMS Delivery Methods:**
 - Hand Emplacement (Current Increment)
 - Ground Vehicles (Future Increments)
 - Remote (Future Increments)
- **Types of Obstacle Effects:**
 - Disrupt
 - Fix
 - Turn
 - Block

Fix

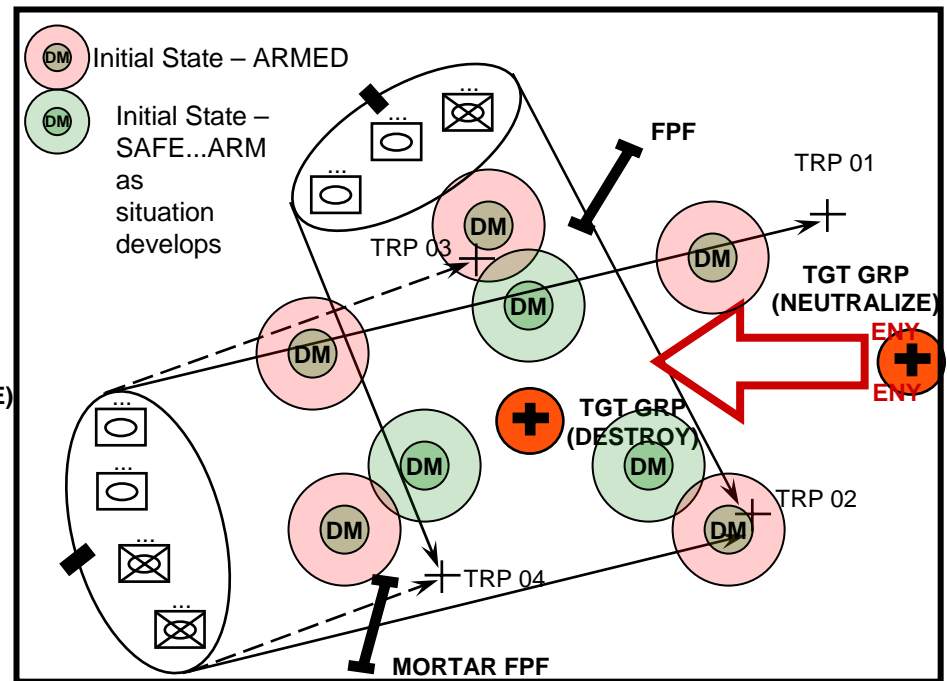
OBSTACLE GROUPS:	PURPOSE:	FIRES & OBSTACLES MUST:	OBSTACLE CHARACTERISTICS:	FM 3-90, Tactics, Appendix B
	<ul style="list-style-type: none"> <input type="checkbox"/> Slow an attacker within an area so he can be destroyed. <input type="checkbox"/> Generate the time necessary for the friendly force to disengage. 	<ul style="list-style-type: none"> <input type="checkbox"/> Cause the enemy to deploy into attack formation before encountering the obstacles. <input type="checkbox"/> Allow the enemy to advance slowly in an EA or AO. <input type="checkbox"/> Make the enemy fight in multiple directions once he is in the EA or AO. 	<ul style="list-style-type: none"> <input type="checkbox"/> Arrayed in depth. <input type="checkbox"/> Span the entire width of the avenue of approach. <input type="checkbox"/> Must not make the terrain appear impenetrable. 	

TODAY




With IMS

50-60% probability of encountering a DM lethal radius across a company frontage. Prob of Kill is .5 to .6 kills/meter.

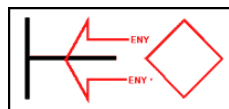
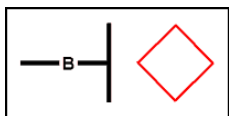


Block

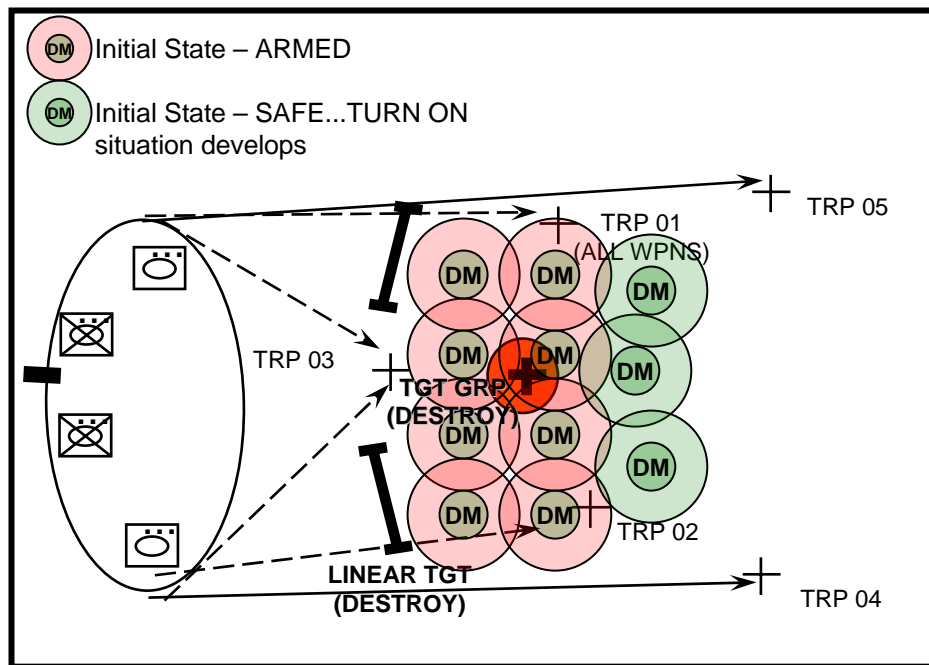
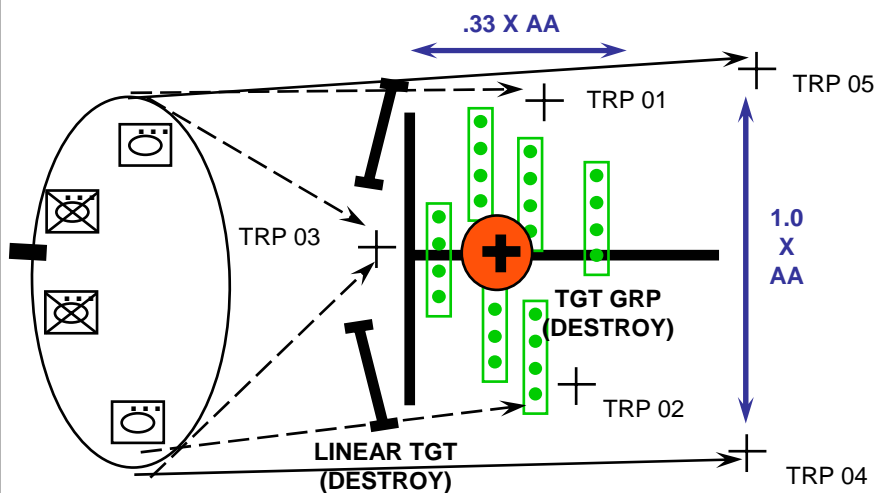
OBSTACLE GROUPS:	PURPOSE:	FIRES & OBSTACLES MUST:	OBSTACLE CHARACTERISTICS:	FM 3-90, Tactics, Appendix B
<p>BLOCK</p> 	<ul style="list-style-type: none"> <input type="checkbox"/> Stop an attacker along a specific avenue of approach. <input type="checkbox"/> Prevent an attacker from passing through an AO or EA. <input type="checkbox"/> Stop the enemy from using an avenue of approach and force him to use another avenue of approach. 	<ul style="list-style-type: none"> <input type="checkbox"/> Prevent the enemy from bypassing or penetrating through the belt. <input type="checkbox"/> Stop the enemy's advance. <input type="checkbox"/> Destroy all enemy breach efforts. 	<ul style="list-style-type: none"> <input type="checkbox"/> Must tie into impassable terrain. <input type="checkbox"/> Consist of complex obstacles. <input type="checkbox"/> Defeat the enemy's mounted and dismounted breaching effort. 	

TODAY

With IMS



85+% probability of encountering a DM lethal radius across a company frontage. Prob of Kill is 1.1 kills/meter.





Summary

- **IMS is the program of record to replace the current persistent anti-vehicular/ anti-tank landmines**
- **Provides the Warfighter with “ON-OFF-ON” and “Safe Passage” capability.**
- **Provides the Warfighter with immediate lethality “out of the box”**
- **SFKMs achieve precision kills with minimum logistics footprint**
- **IMS leaves a clean battlefield**
- **IMS complies with US National Landmine Policy**