PM CLOSE COMBAT SYSTEMS

PM Close Combat Systems
Briefing for:

Precision Strike Association
NDIA Picatinny Chapter

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PM CCS Mission

PM CLOSE COMBAT SYSTEMS

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

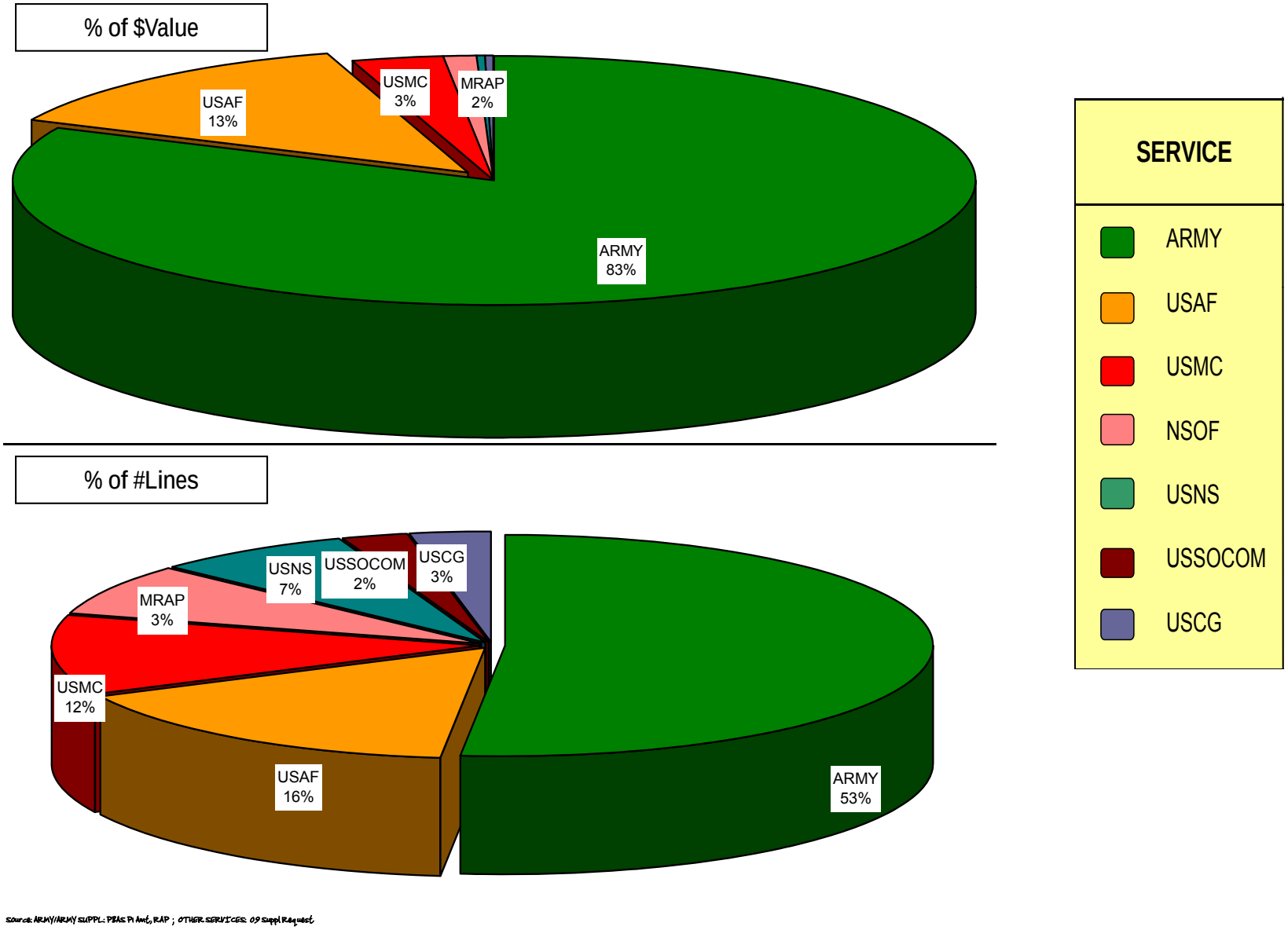
PM Close Combat Systems
Product Lines

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.

- Networked Munitions
  - XM7 Spider
  - XM1100 Scorpion
- Legacy Mines
- Countermine
- EOD Equipment
- IED Defeat
- Grenades
- Pyrotechnics
- Demolitions
- Shoulder-Launched Munitions
- Non-Lethal Systems & Munitions
- Special Projects

http://www.pica.army.mil/pmccs/

PM CCS FY09 FUNDING BY CUSTOMER



source: ARMY/ARMY SUPPL: PBAS P1 Amt, RAP ; OTHER SERVICES: 09 Suppl Request

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Networked Munitions Role on the Battlefield

As **Tactical** Networked Munitions,

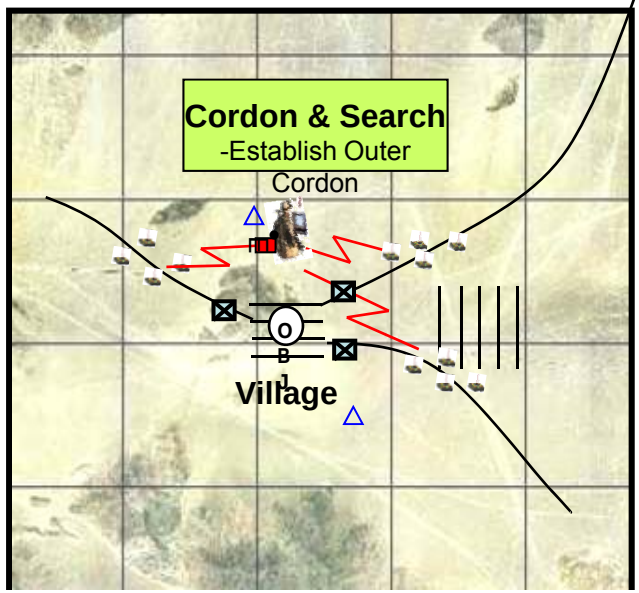
Spider & Scorpion are employed to attack the enemy or to deny the enemy's freedom of maneuver along the enemy's expected avenue of approach, movement route, or future location.

This equates to enhanced countermobility and terrain shaping capabilities.

As **Protective** Networked Munitions,

Spider & Scorpion are employed to protect friendly forces, installations, routes, and actions within a specific operational area.

This equates to protection capabilities in the form of local security and area security.



SPIDER
Networked Munitions System

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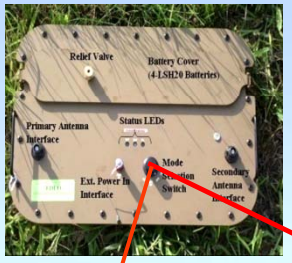
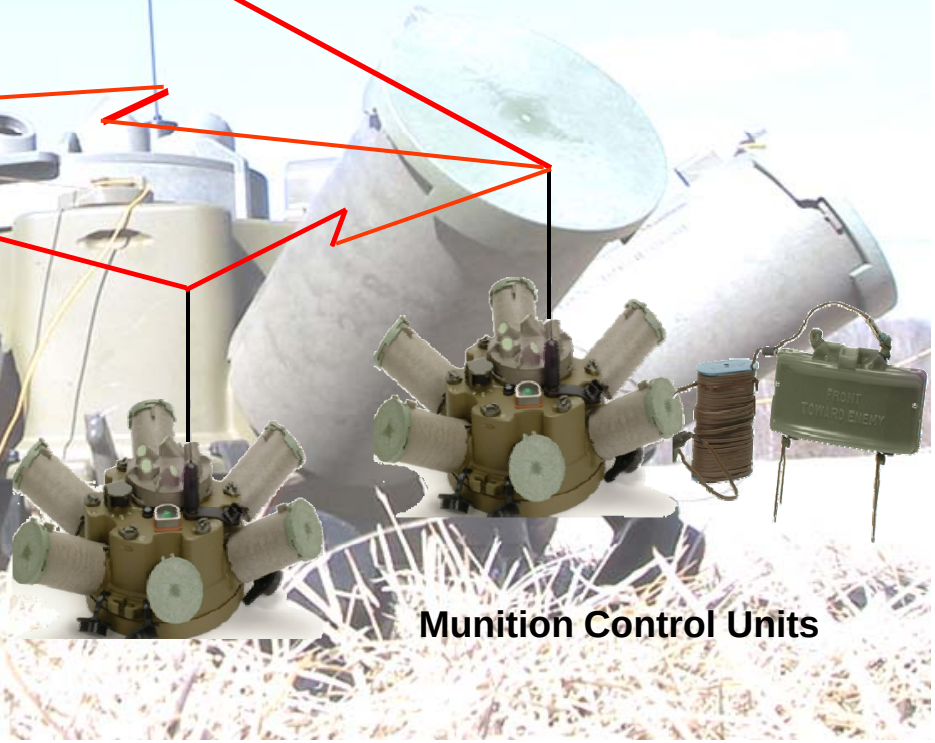
Validated Operational Needs Statement (44)	4 Aug 08
Updated ONS validated (66)	16 Oct 08
User Acceptance of MON	Jan 09
UMR Approval by TACOM	Jan 09
UMR Approval by JMC	Jan 09
Ship 66 systems	Mar-May 09
Completed NET	Mar-May 09

Repeater



Peer-to-Peer Networking

Remote Control Station



Munition Control Units

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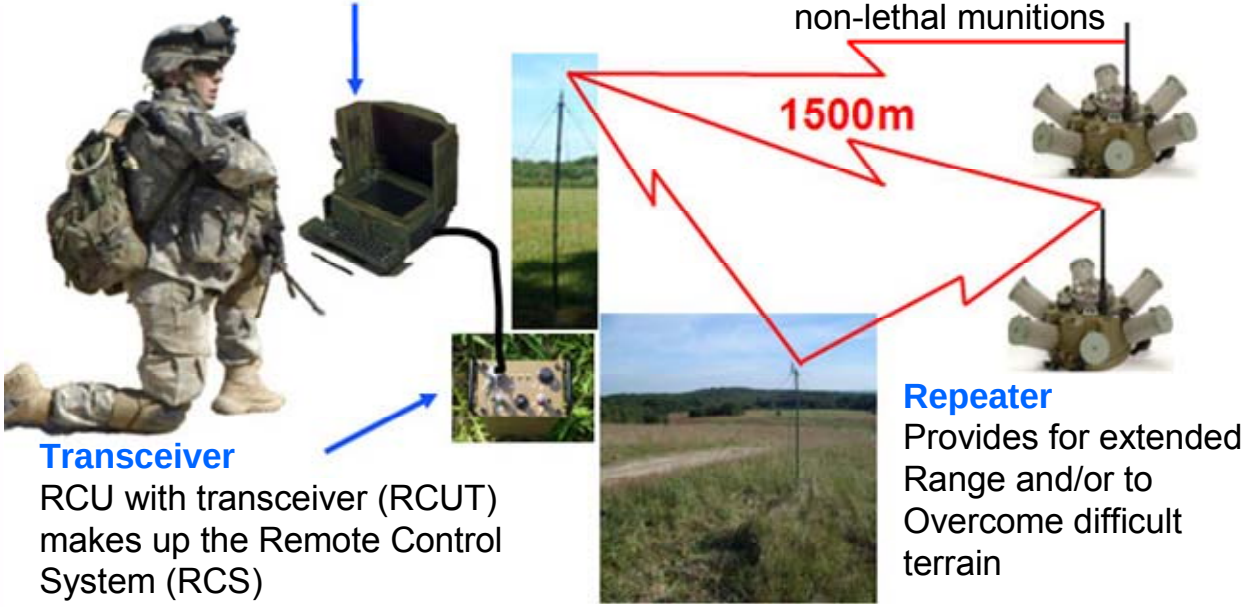
Spider System Overview

Remote Control Unit - RCU
Man-in-the-Loop (MITL) command and control of all munitions in the field

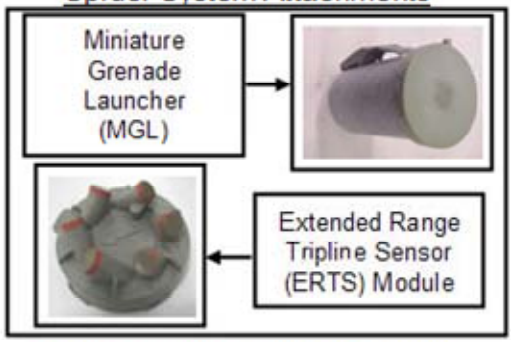
Munition Control Unit - MCU
Hand emplaced, remotely controlled munitions. Detects intrusions, controls lethal and non-lethal munitions



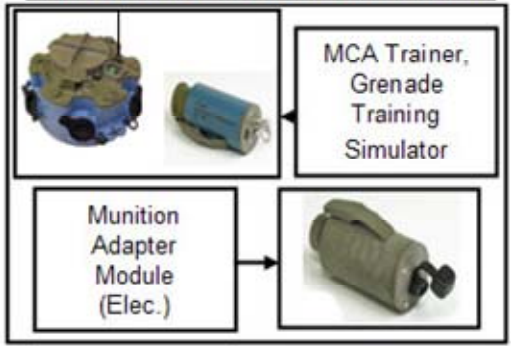
Transceiver
RCU with transceiver (RCUT) makes up the Remote Control System (RCS)

Repeater
Provides for extended Range and/or to Overcome difficult terrain

Spider System Attachments



Additional Spider System Hardware



System Capabilities

- **Self Destruct & Self Deactivate**
- **Command Reset/Recycle Self Destruct**
- **Transfer of Control**
- **Interface to ABCS via removable media**
- **ON – OFF – ON (safe passage/maint.)**
- **Multiple Effects (Lethal / NL / Demo)**
- **Reusable**
- **Command Destruction**

SCORPION (Intelligent Munitions System)
Networked Munitions System

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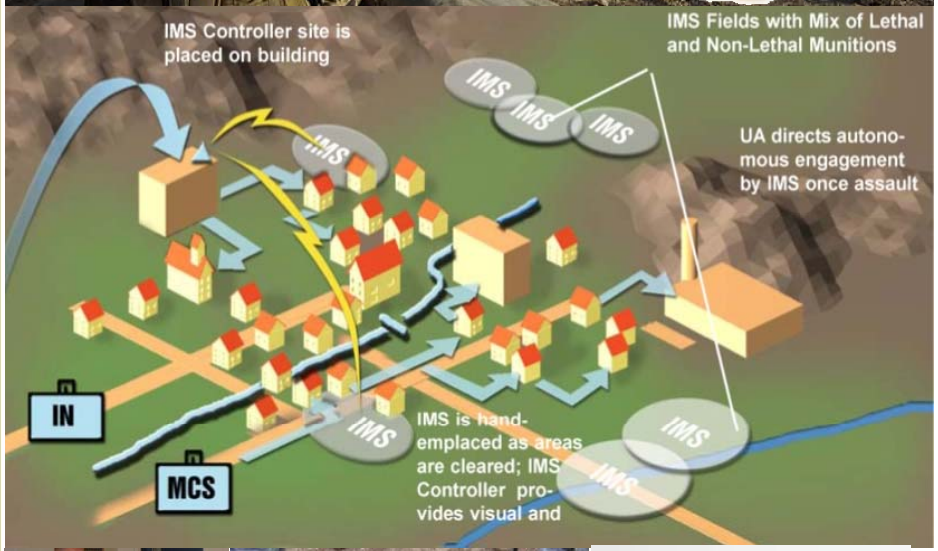
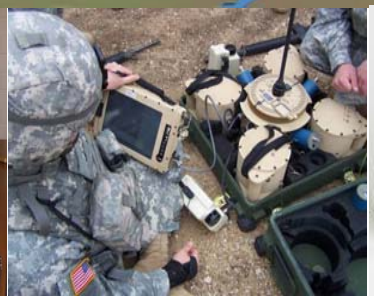
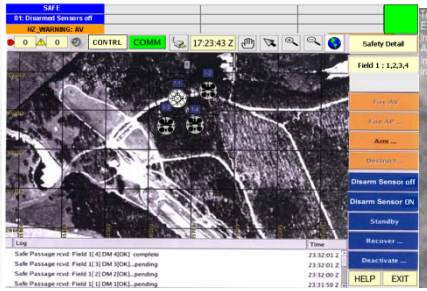


- **Networked Munitions System**
- **Enables a scalable response**
- **Provides temporary & fixed site security**
- **Persistent surveillance & screening**
- **Anti-Vehicle / Anti-Tank System**





Scorpion Increment 1 System Overview

Command & Control (C2)
- Via handheld controller
- Can control other munitions
- Spider radio as interim for JTRS

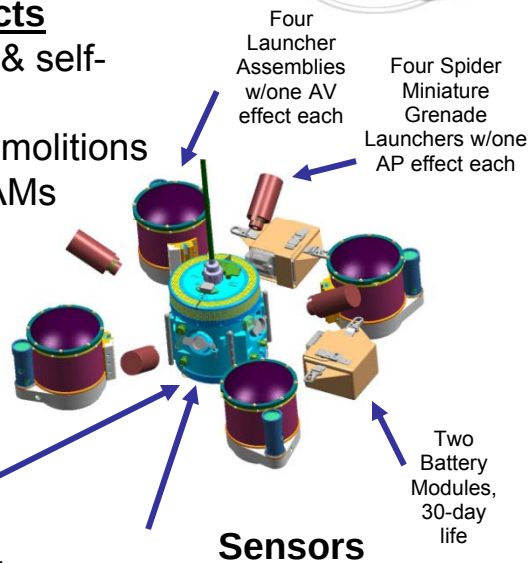
Control Station

1500-3800 m

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

Modular Components

Effects
- Lethal AV & self-protect AP
- Initiate Demolitions
- Spider MAMs



Effects Electronics Module
- Provides central C2 in
- the field
- Sensor fusion
- Munition controller

Sensors
- Enable coordinated attack
- Ground Sensors: Acoustic, seismic, & MMW RADAR
- Airborne Sensors: Passive & Active IR

System Capabilities

- Self-Destruct & Self-Deactivate
- ON-OFF-ON — “Safe Passage”
- Transfer of control, regain 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

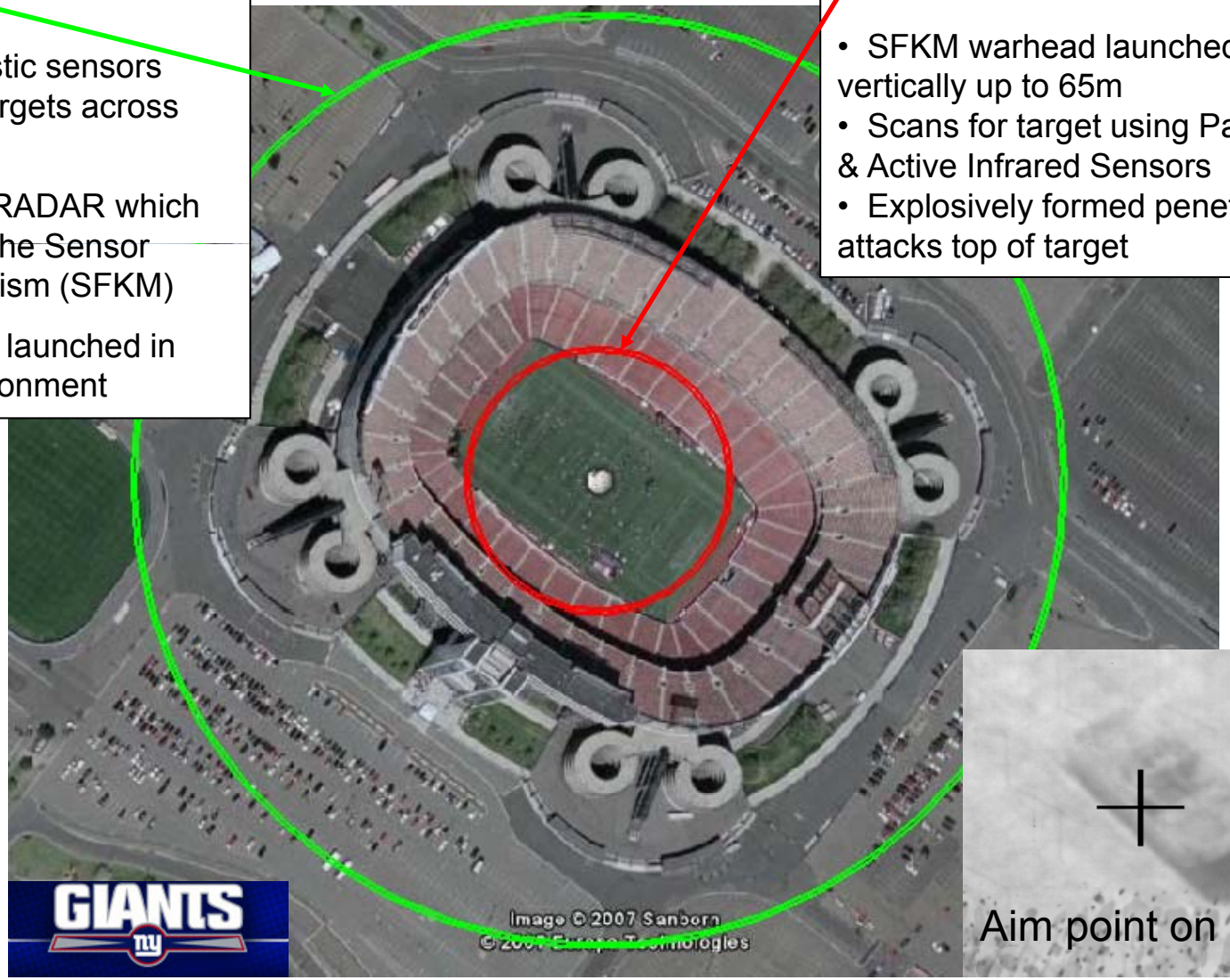
Scorpion Area of Influence

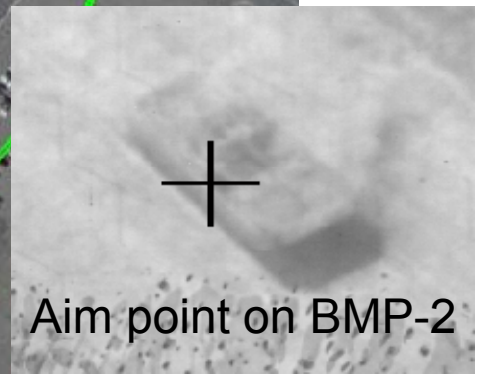
Effective Situational Awareness Coverage (400m diameter)

- Seismic & Acoustic sensors detect and track targets across target set
- Turns on MMW RADAR which triggers launch of the Sensor Fuzed Kill Mechanism (SFKM)
- SFKM precisely launched in known target environment

Effective Lethal Range of AV Effect (100m diameter)

- SFKM warhead launched vertically up to 65m
- Scans for target using Passive & Active Infrared Sensors
- Explosively formed penetrator attacks top of target





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Major Areas of Concentration

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PM CCS Focus Areas

Development of New Systems

- Spider
- Scorpion
- ASTAMIDS
- GSTAMIDS
- IAM

Fielding New Non-Developmental Capabilities

- <u>IED Defeat</u>
  - SPARK
- <u>Protect Force</u>
  - VLAD
  - TASER
- <u>Shoulder-Launched</u>
  - AT4-CS

Modernizing Production Ammunition

- MDI
- M67 Grenade
- M211/M212 CM Flares
- AT4/AT4-CS
- M18 Smoke Grenade
- Bangalore Torpedo

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Ammo Acquisition Philosophy

- Best Value Competition based on technical capability/quality
- Restricted to NTIB IAW Section 806
- Long-term (5yr) partnerships with high quality suppliers
- Contracts for logical, economical groups of products (families)
- Strong cooperation/collaboration between contractor & government engineers
- Continuous product & process improvement
  - Modernization of materials, design & production processes
- Allow for risk, & invest savings in improvements/future risk mitigation
  - Reliability, producibility, weight reduction, environmental compliance, logistics supportability

Modernization through Acquisition