

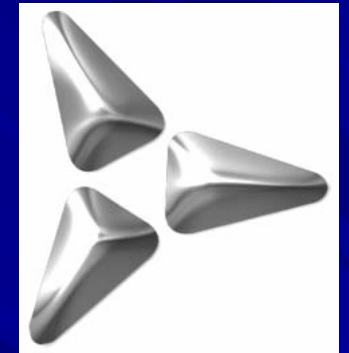
Telepresent Rapid Aiming Platform (TRAP)



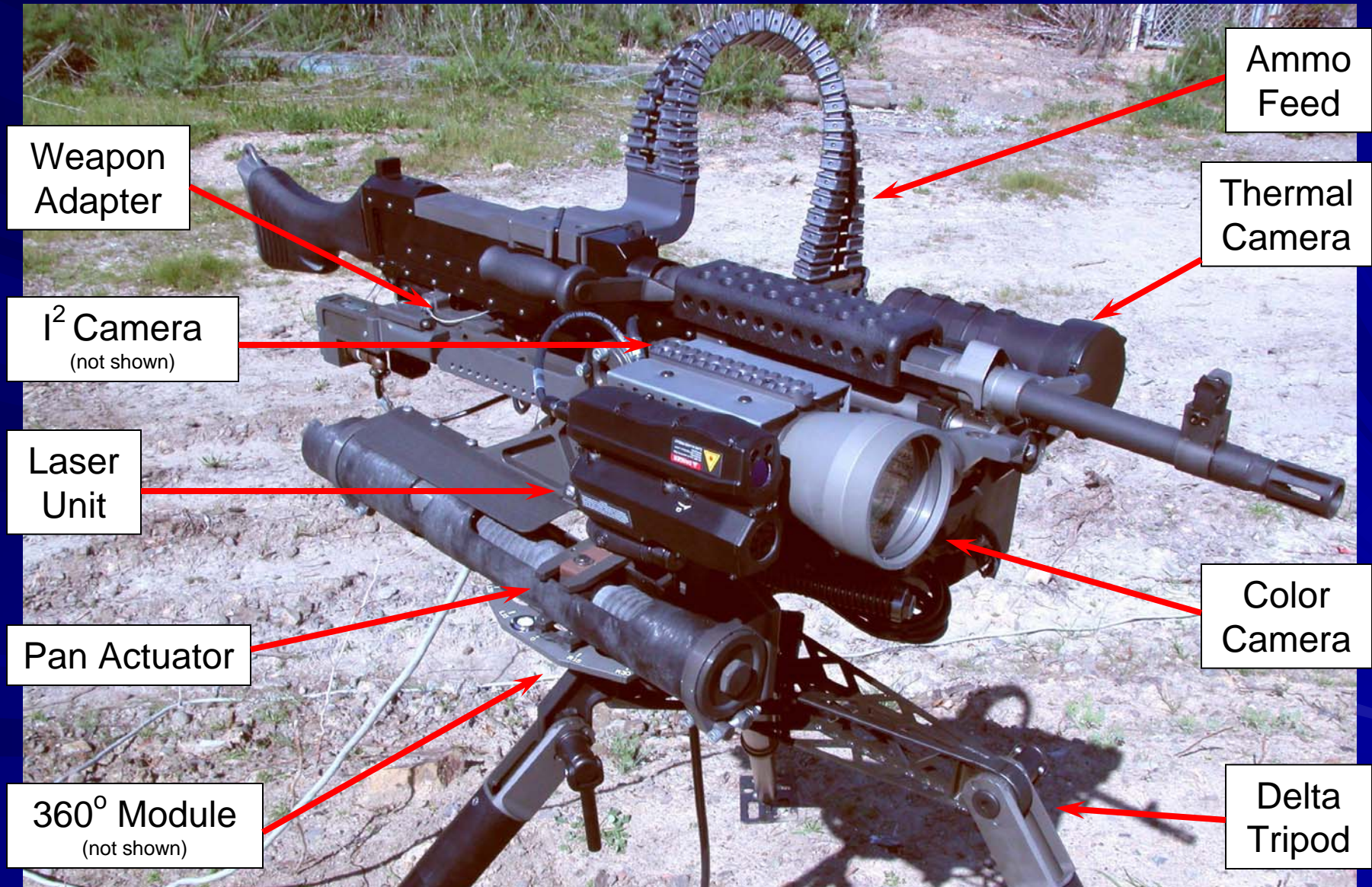
Spiral Development of a Lightweight Remote Weapon System and Integration Into a Mobile Sensor-Shooter Network



- TRAP T-250D MK IV Hardware Overview
- Cameras
- User Interface
- Tactical Display
- SLAM-R Laser Unit
- Counter Sniper Vehicle
- Image Stabilization
- Quad-X Portable Security Unit
- T250-FS: Facility Security Model
- SWORDS UGV
- EOD applications
- TRAP T360: Moving Forward
- Points of Contact / Questions?

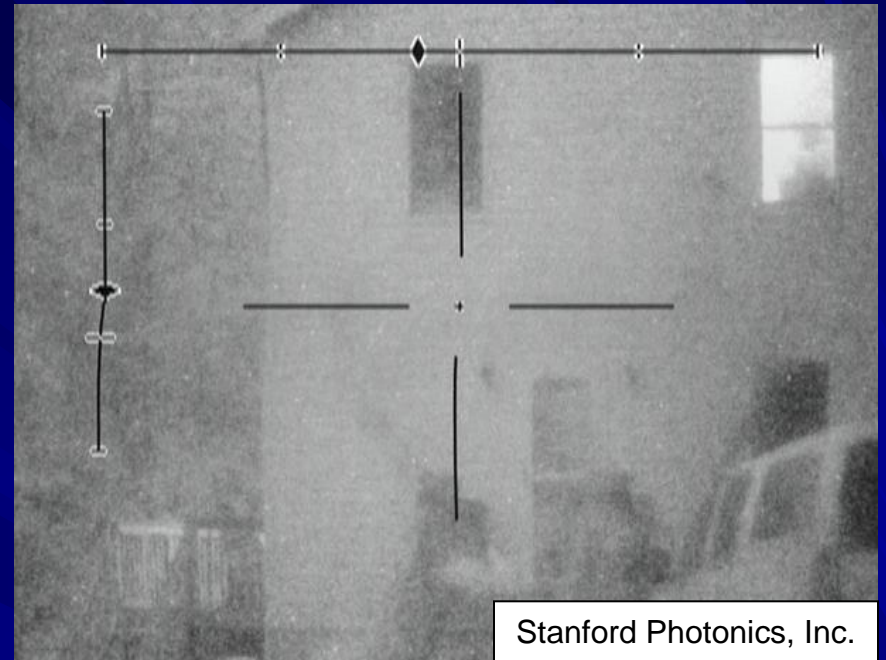


TRAP T-250D MK IV

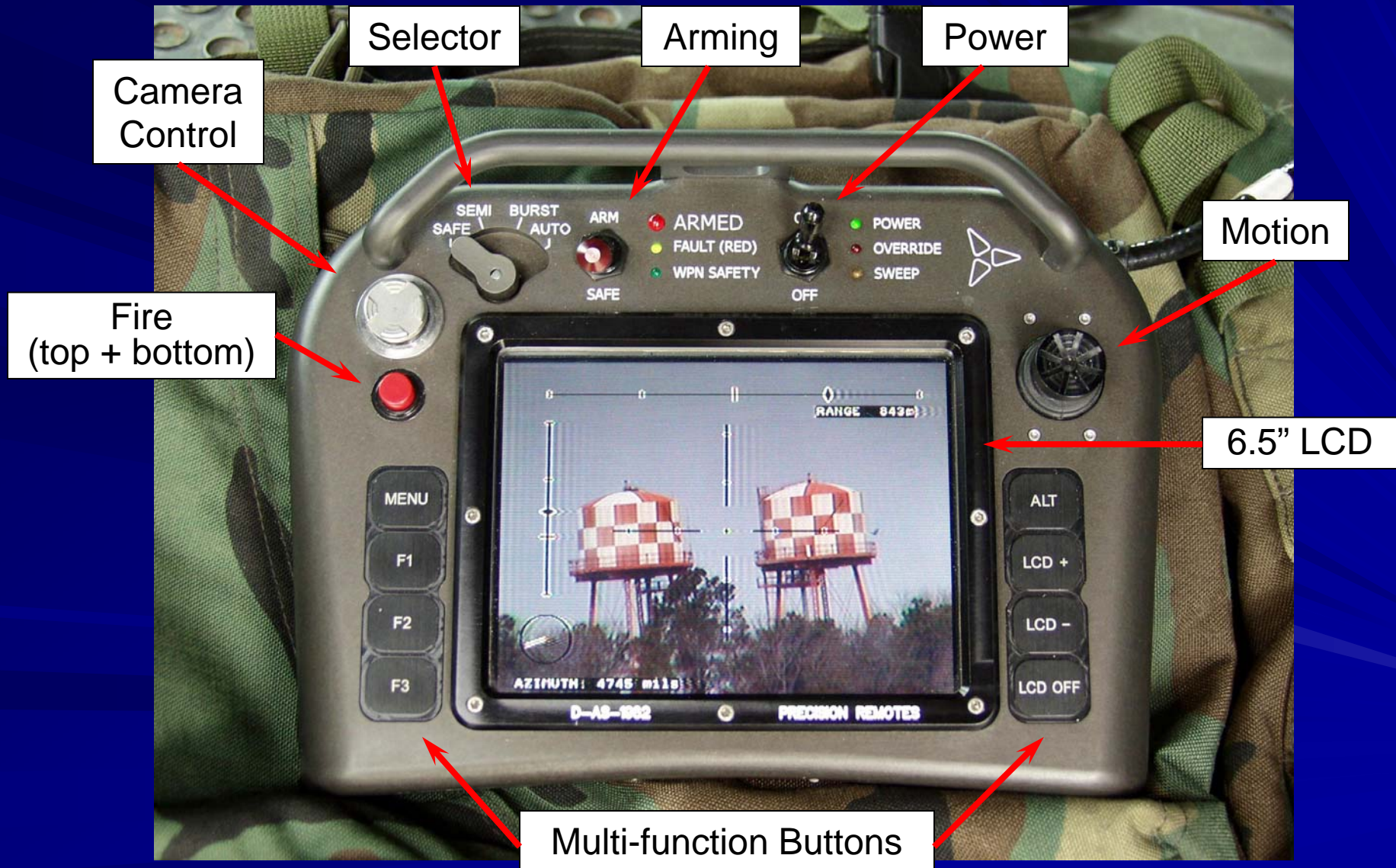


Cameras

- Color - Sony FCB-980S camera + US Optics booster lens; $19^\circ - 1.2^\circ$ HFOV; 3.75 lbs
- I² - XR/MEGA-10LC tube, Sony XX285 CCD, CAT lens; $12^\circ, 6^\circ, 3^\circ$ HFOV (digital zoom); 2.7 lbs
- Thermal – L3 320 x 240 core; $12^\circ, 6^\circ$ HFOV (digital zoom); 1.7 lbs



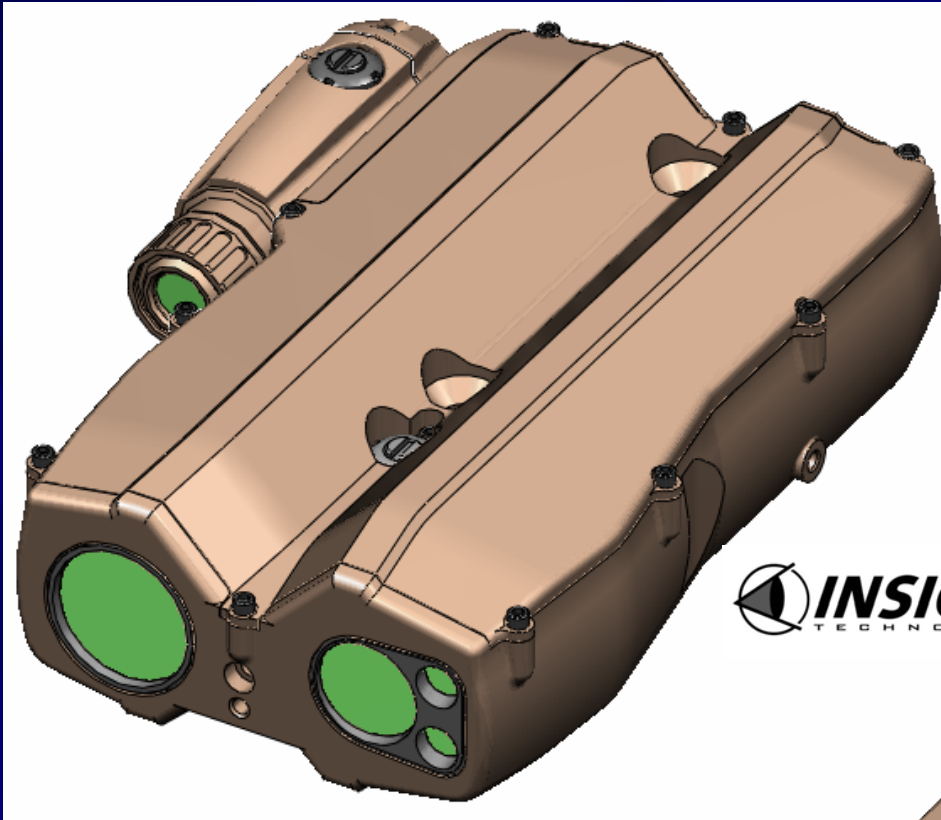
User Interface



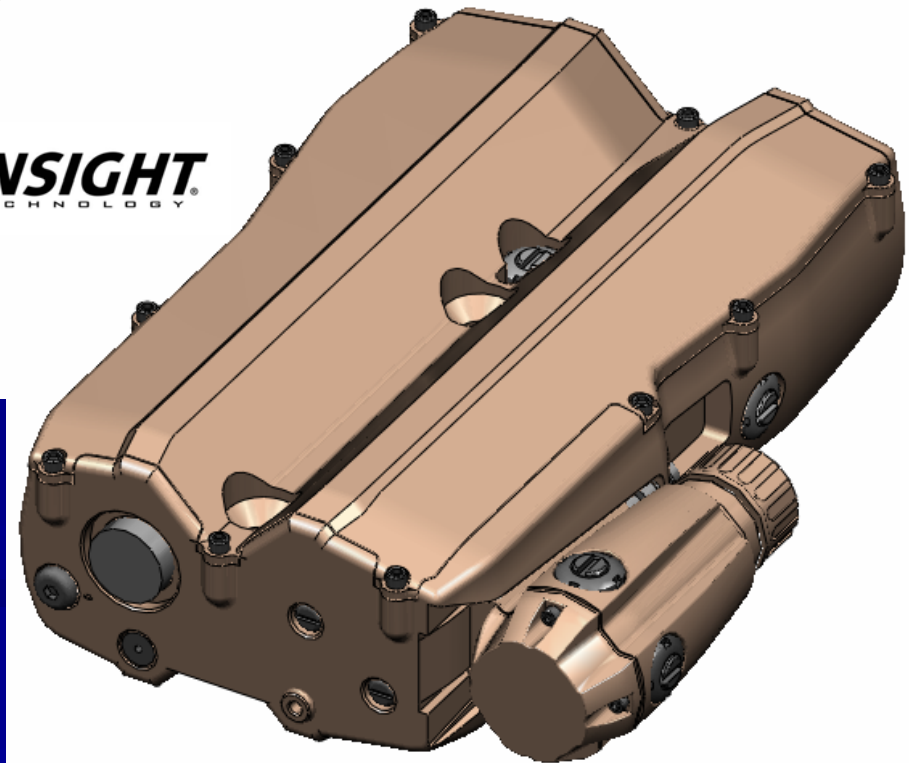
Tactical Display



Sensor/Laser Aiming Module – Remote (SLAM-R)



- Uses modified STORM optical bench
- Remote operable RS-232 interface
- MILES and Digital Compass removed
- Modular IR illuminator spot/flood
- Accepts MIL-STD-1275B host power
- 6" x 1.75" x 4.75" (incl. illum. pod)



- High / Low power lockout switch
- Class 1 LRF, +/- 1.5m to 4,500m +
- Visible aiming laser, Class 3b / 3a
- IR aiming laser, Class 3b / 1
- IR illuminator (30 mW), Class 3b / 3a
-Expandable to 100 mW

Counter Sniper Vehicle



Sensor: Boomerang



Platform: HMMWV, etc.



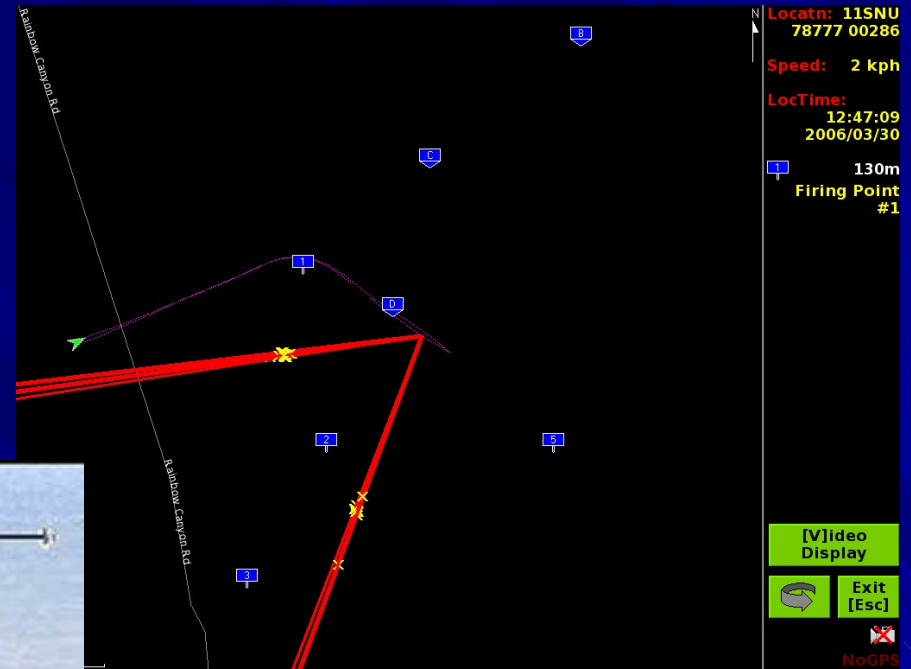
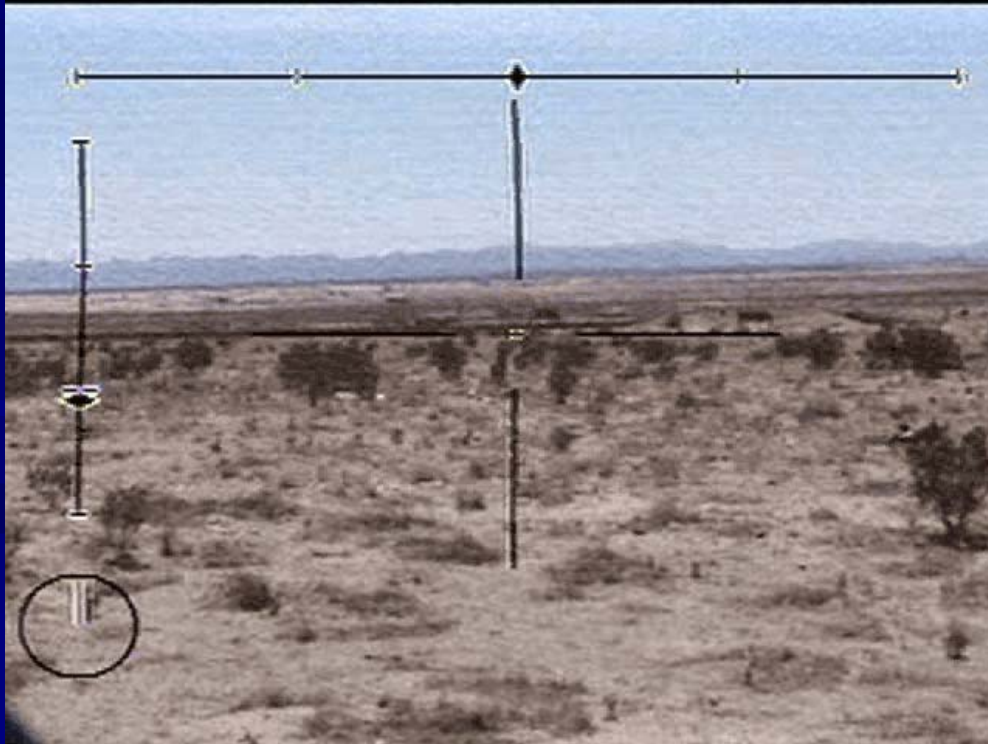
Shooter: TRAP T250

CSV concept to combine emerging / COTS technologies in a light weight, low-cost package to counter the ongoing sniper threat in Iraq and Afghanistan

- Initiated by USMC 1MEF at Camp Pendleton
- Prototype tested March 2006 at Twenty Nine Palms, CA

Counter Sniper Vehicle

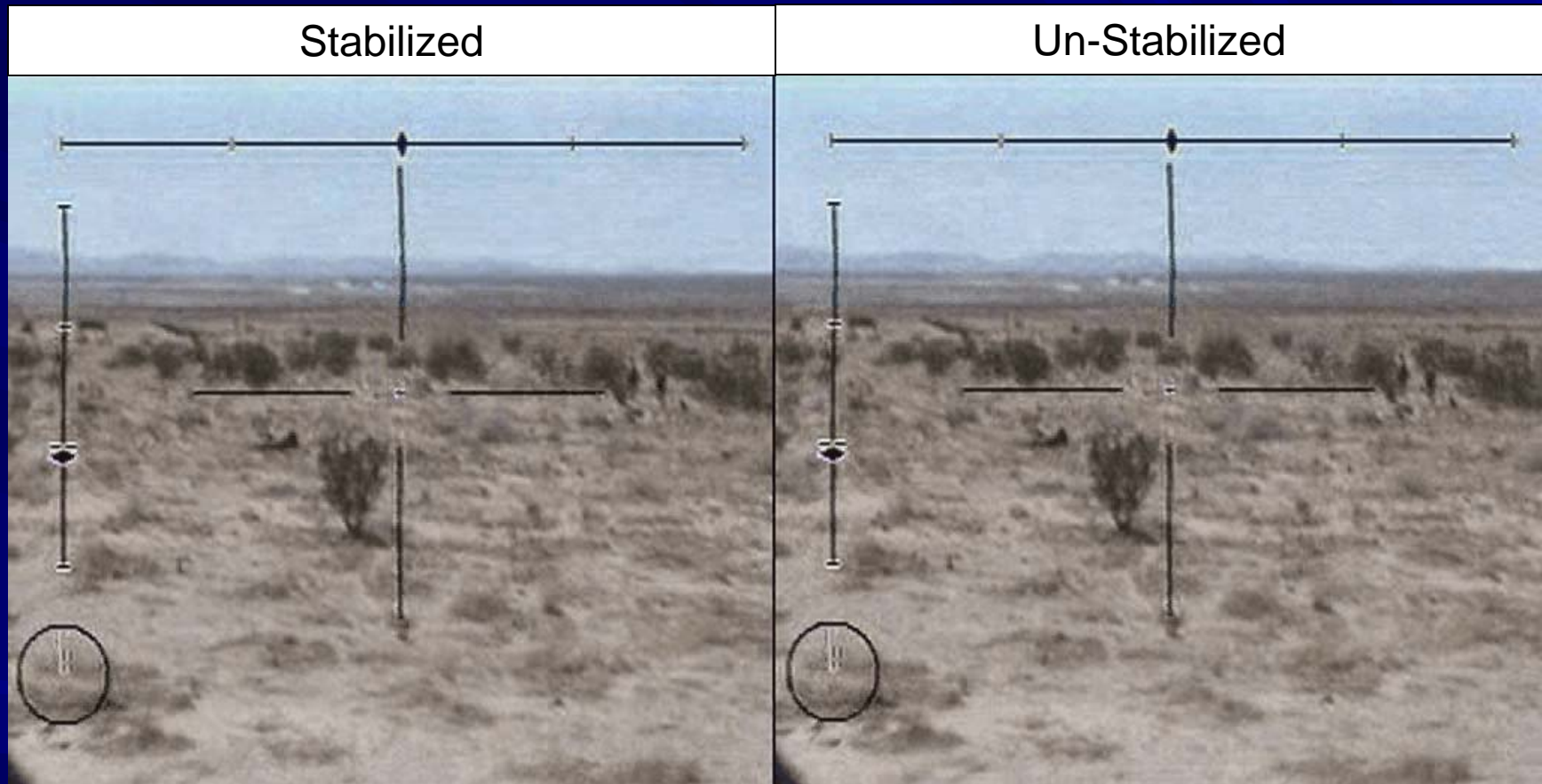
- Third-Party software maps vector and GPS location of incoming rounds, slews TRAP to target bearing for manual engagement via TRAP interface
- GPS coordinates stored – can be used for squad deployment, call for fire, or GPS-guided ordnance



- System can store video/stills for analysis
- Current controller may be replaced with the system in use on Gunslinger and the Full Spectrum Effects Platform (FSEP)
- In-theater testing Summer '07

Image Stabilization

Uses Ovation Systems "Stable Eyes" module by QinetiQ Technology



Video recorded from moving CSV – system has detected a shot and is orienting TRAP towards the shooter

Quad-X: Portable Security Network



- Network up to four (4) TRAP systems
- Master operator/supervisor
- Video outputs for additional displays or recording devices
- Programmable security sweeps
- Linux-based, fully upgradeable



Facility Security Model



- In use at the Prairie Island Nuclear Power Station and Kirtland Underground Munitions Security
- Designed for elevated locations (0-60° depression, 190° traverse)
- Motorized enclosure provides weapon security, environmental and small-arms fire protection
- Fiber optic network – can integrate with existing perimeter sensors and surveillance systems



SWORDS

Special Weapons Observation Remote reconnaissance Direct action System

U.S. Army's first Safety Confirmed Armed Unmanned Ground Vehicle!



- Weaponized Foster Miller Talon 3B robot
- Missions:
 - Over Watch / Recon
 - Security
 - First In / Room Clearing
 - Offensive

- Range: 1,000m LOS, 200m NLOS
- Speed: Up to 5 mph
- Weapons: M249, M240, M107, M203, 12 gauge, AT-4, and SMAW
- Sensors: Microphone, LRF, pan/tilt/zoom camera, wide area camera, weapon sight camera (day + I²), front and rear driving cameras



Joint EOD TechDiv

I-SCS: Improved Submunition Clearance System



Allows EOD Technicians to locate, identify, and engage explosive ordnance items from inside armored vehicles – improved safety and accuracy with less operator fatigue.

Identify / Engage:

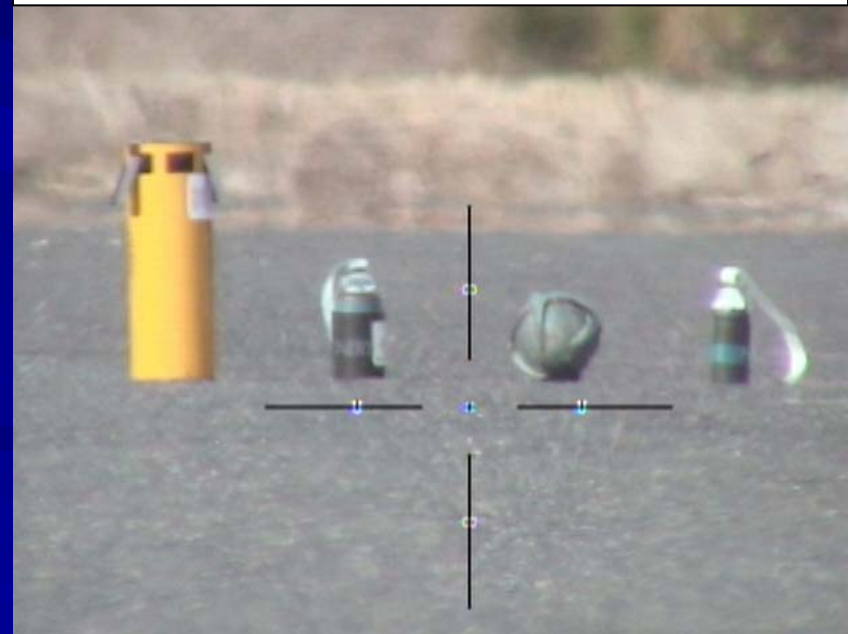
Threshold

- BLU-61 at 50 m
- 155mm rounds at 500 m
- MK84 bomb at 1,000 m

Objective

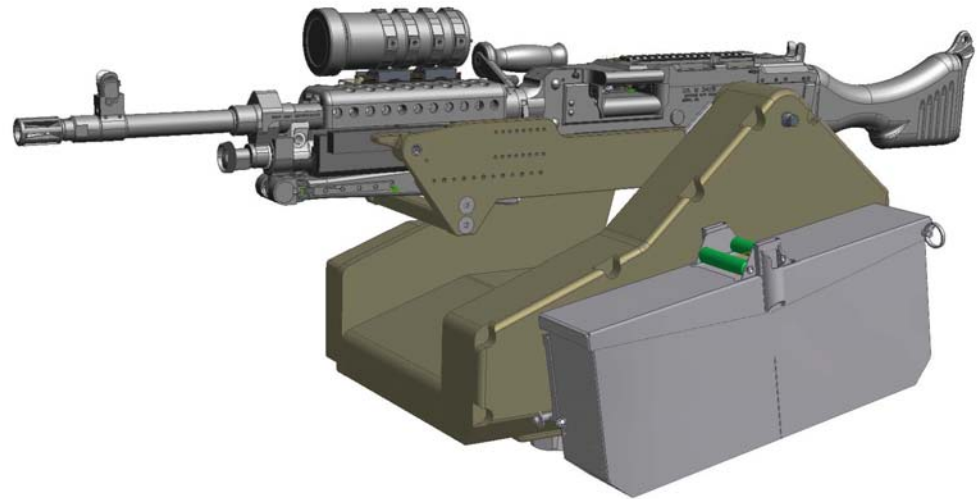
- M42 at 50 m
- 130mm rounds at 500 m
- MK82 bomb at 1,000 m

Range: 50 m (actual screen shot)



TRAP T360

- Incorporating the spiral improvements from the past 5 years
- 400 round 7.62mm
- Brushless motors
- Anti-slip brake system



- Integrated 360 drive
- Closed-loop feedback
- Better environmental resistance
- Mechanical stabilization
- Prototype testing July '07

Points of Contact

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