Department of the Army
Rapid Equipping Force
to
International Armament Technology and Exhibition

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Rapid Equipping Force

16 June 2004
REF - A Short History

2002
10 May START
29 May $s Received
28 Jun Contract
2 Jul Arrived
1 Aug Depart
23 Aug AAR

2003
30 Oct
31 Nov
30 Dec
28 Feb
23 Mar
May
Aug

Missions

4 Bunkers
1 Cache
26 Caves
1 Compound
3 Buildings

Doctrine, TTPs
System Refinement

Ref - Afghanistan
• Fwd Teams linked to units
• Continued to equip with new items

Ref - Kuwait / Iraq
• Teams established, pushed forward
• New threats, new requirements
• REF took equipment into battle
The CSA’s Guidance

Mission: Provide operational commanders with rapidly employable solutions to enhance lethality, survivability and force protection through insertion of COTS-GOTS (Equip) and Future Force technologies (Insert) while informing Army stakeholders (Assess) to remain ahead of an adaptive enemy.
REF Uses Operational Commander’s Near Term Requirement Process...

30 days

Original Requirement Met

REF Enter into Army Acquisition Process

REF Deploy/Train/Sustain

REF GOTS/COTS/NDI Contract and Develop

60 days

... and its own rapid fielding model
## REF Projects Mapped to Categories

<table>
<thead>
<tr>
<th>IEDs</th>
<th>Counter Mine</th>
<th>Counter Sniper</th>
<th>Counter Mortar</th>
<th>Force Protection</th>
</tr>
</thead>
</table>
| • EHAT Kits  
  • S –System  
  • ASP Ammunition Marking (Powder & Markers)  
  • ASP Ammunition Marking Microencapsulated Malodorants  
  • Product Acoustic Signature System (PASS)  
  • Quantum Sniffer Explosive Detector  
  • Specialized Search Dogs | • REF Mine Detecting Dogs  
  • Medium Flail HW Upgrade  
  • Mini Flail HW Upgrade | • Gunfire Detection System (PILAR)  
  • Boomerang Shooter Detection & Location  
  • Auto Gun Mount  
  • HMMWV Modifications  
  • Picatinny Lightweight Remote Weapons Station | • Unattended Transient Acoustic MASINT System (UTAMS)  
  • Hostile Artillery Locating System (HALO) | • Mobile MOUT  
  • Joint Precision Airdrop System  
  • Handheld Thermal Sight  
  • Fiberscope  
  • Expray  
  • Magnetometers  
  • Ferrotrace  
  • Walk Through Metal Detectors  
  • Itemizer3  
  • Translators  
  • Vapor Tracer  
  • Entry Scans  
  • HMMWV Modification  
  • HMMWV Turret Protection  
  • Armored Commercial Vehicle (ACV)  
  • Underground Void Detection  
  • Battery Powered Conditioner  
  • Vehicle Protection Projects |

**Priority Threat:** IED, RPG, Mortar, Small Arms and ManPads
## REF Projects Mapped to Categories

### IEDs
- EHAT Kits
- S-System
- ASP Ammunition Marking (Powder & Markers)
- ASP Ammunition Marking Microencapsulated Malodorants
- Product Acoustic Signature System (PASS)
- Quantum Sniffer Explosive Detector
- Specialized Search Dogs

### Counter Mine
- REF Mine Detecting Dogs
- Medium Flail HW Upgrade
- Mini Flail HW Upgrade

### Counter Sniper
- Gunfire Detection System (PILAR)
- Boomerang Shooter Detection & Location
- Auto Gun Mount
- HMMWW Modifications
- Picatinny Lightweight Remote Weapons Station

### Counter Mortar
- Unattended Transient Acoustic MASINT System (UTAMS)
- Hostile Artillery Locating System (HALO)

### Force Protection
- Mobile MOUT
- Joint Precision Airdrop System
- Handheld Thermal Sight
- Fiberscope
- Expray
- Magnetometers
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- Walk Through Metal Detectors
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- Armored Commercial Vehicle (ACV)
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- Vehicle Protection Projects

### Priority Threat: IED, RPG, Mortar, Small Arms and ManPads
### UVAs
- Raven
- MAVARC
- Vigilante

### Biometrics
- Mobile AFIS and Fingerprint Live Scan
- Automated Fingerprint Identification System (AFIS) ARC

### Robotics
- Packbot
- Robot M-gator
- MARKBOT
- EODBOT
- ODIS
- High Mobility Tactical Micro-Robot
- Railbot
- REDOWL (Robot Enhanced Detection Outpost with Lasers)
- Throwbot
- Panther Tank Robot

### Weapons
- M4 Slings
- CQBR Short Barrel M4
- CMAG
- AN/PSQ 18
- Close Quarters Battle Sight (CQBS)
- C-More CTAC Red Dot Sights
- EO Sights
- MK125 MOD 0 Tripod
- FN303
- Shoot around the Corner Sights
- TWS Hide Monitor
- Trap 50
- Trijicon ACOGs
- TLOS
- E-50 Quick Change Barrel M2 50.cal.
- M14-A1 (EBR) Stocks
- Aiming Laser
- AN/PAS 13B (V)
- AN/TAS-6A NODLR
- GEM Tech Suppressor

### ISR
- Rapid Aerostat Initial Deployment (RAID)
- Well Camera
- Battlefield Optical Surveillance System (BOSS)
- NS Microwave
- MERLIN
- ARL M6/MARSS IV
- Change Detection
- Acoustic Antenna
- SASS Lite
- Remote Acoustic Imagery
- Tactical Exploitation System (TES) Lite
- Search Lights
- REAP
- Sense through the Wall Radar (STTW)
- CHEAP

### Communications
- LRAD
- RAMP 25
- Advanced Robotic Controller
- Breadcrumb
- Satellite Internet
- HT1000 Radio

**Priority Threat:** IED, RPG, Mortar, Small Arms and ManPads
2 March 2003

US Soldiers moving too quickly to search Afghan wells

3 March 2003

REF Field Engineer makes first wellcam out of spare parts from the lab

4 March 2003

82nd ABN soldier finds weapon cache using REF proto-wellcam

NOW

Fifth-generation wireless Wellcams deployed with 82nd, 101st, and 10th MTN units in Afghanistan and Iraq
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 March 2003</td>
<td>Soldiers need more Pashtu interpreters to help with village search commands</td>
</tr>
<tr>
<td>1 April 2003</td>
<td>REF Field Engineers record Pashtu phrases on a PDA, interface using “web page” format</td>
</tr>
<tr>
<td>21 April 2003</td>
<td>3rd-gen rugged PocketTerps include High-Value Targets, EOD manuals, first aid; soldiers call it the “Magic Key”</td>
</tr>
<tr>
<td>NOW</td>
<td>Eighth-generation PocketTerps being developed in Iraq; now includes loudspeakers, multiple languages; now also being used in traffic checkpoints for safe standoff distance from vehicles</td>
</tr>
</tbody>
</table>

May 2003 feedback from Task Force Devil Squad Leaders: “I’d take this on every mission. Before I had to do charades for forty minutes. Now they listen and respond in forty seconds.”
### REF: MAGNETOMETERS

<table>
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<tr>
<th>Date Range</th>
<th>Event Description</th>
</tr>
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<tr>
<td>21 August 2003</td>
<td>BG Bagby (CJTF-180) sent a request to REF for a way to search hay, manure, dirt piles for hidden weapons</td>
</tr>
<tr>
<td>21-25 August 2003</td>
<td>REF conducted field research to find an appropriate COTS solution (Schonstedt GA-92XTD)</td>
</tr>
<tr>
<td>3-5 September 2003</td>
<td>Two prototype units ordered, delivered to REF and shipped to theater. CJSOTF then ordered fifty to support their operations</td>
</tr>
<tr>
<td>NOW</td>
<td>120 additional units have been shipped to theater for various units as part of the force protection package approved in 6 January Army Strategic Planning Board meeting</td>
</tr>
<tr>
<td>May 2003</td>
<td>June 2003</td>
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<tr>
<td>Operational Needs Statement from 101st approved in Army Strategic Board meeting</td>
<td>Twenty delivered to Iraq</td>
</tr>
</tbody>
</table>

**NOW**

*Spiral development potential in counter mortar*
November 2003
Initial Requirements Meeting

December 2003
ASPB approved requirement

January 2004
First eighteen kits delivered to Iraq

NOW
Continuing to work with PM on emerging requirements.
Provided two underbody armor kits for testing
BACKUPS