



U.S. ARMY RAPID EQUIPPING FORCE

TWELVE YEARS OF RESULTS

The U.S. Army Rapid Equipping Force addressed thousands of requirements in support of the Global War on Terrorism. Many of these efforts informed further Army research and development or became Programs of Record. The following notable projects demonstrate the breadth of REF capabilities in support of deployed units.

1. PACKBOT

The Packbot was inserted into Afghanistan in 2002 after the Vice Chief of Staff of the Army, General John Keane challenged Colonel Bruce Jette with finding a solution to mitigate Soldier casualties from booby traps and grenade blowback during cave search missions. Packbot was the first man-packable robot deployed to theater and provided Soldiers with visual confirmation capabilities. The system led to the development of follow-on robots that are still in use today. Because this system illustrates a leap in technological capability, the Packbot is featured at the Smithsonian American History Museum's "Price of Freedom" exhibit in the tribute to the Global War on Terrorism.



*The Packbot's first mission in Afghanistan.
(July 2002)*

2. RAVEN

During the early years of Operation Iraqi Freedom, the REF equipped units with the Raven, a hand-launched, unmanned aerial system to provide Soldiers with real-time situational awareness. Today, the Raven is organic equipment and managed by PM UAS.



*U.S. Army Spc. Ryan Dickinson launches the Raven UAS.
(U.S. Army photo by Sgt. Garrett Hernandez/Released)*

3. BIOMETRICS

After the fall of Baghdad in 2003, DoD leadership directed REF to partner with the Coalition Provisional Authority, the State Department and the FBI to develop an Iraqi national identification program, including an identification card system and the Automated Fingerprint Identification System, to be used to identify insurgents involved in IED-warfare and to identify known terrorists. This project was transitioned to the Biometrics Task Force.

4. BOOMERANG

The Boomerang, which uses acoustic sensors to detect the source location for sniper fire, was initially developed by DARPA and the Marine Corps. Then in 2006, the Army directed REF to equip units in Iraq with the systems, while integrating it with slew-to-cue weapons to improve Soldiers' ability to confirm and engage the enemy. In 2008, this system transitioned to PM Ground Sensors.

5. RAPID DEPLOYMENT INTEGRATED SURVEILLANCE SYSTEM

Originally a temporary solution while a more robust small base, force protection system was being developed, RDISS monitors movement along multiple avenues of approach. Following positive performance in the field, RDISS was incorporated with the more comprehensive Base Expeditionary Targeting and Surveillance Systems- Combined protection system, managed by the Army Communications and Electronics Command.

6. MAN PORTABLE LINE CHARGE (MPLC)

In 2011, REF partnered with AWG to develop a lane-interrogation capability. These lightweight charges are designed to clear a narrow footpath and expose, disrupt or neutralize IED trigger mechanisms. Due to its success, the MPLC is being considered by the Counter-Improvised Explosive Device Non-Standard Equipment Army Requirements Oversight Council to earn enduring capability status.



Pfc. Grant Winters deploys the MPLC system during a training exercise in Afghanistan.
(U.S. Army Photo by Cpl. Alex Flynn)



U.S. Army Cpl. Andrew Strickland operates a REF Minotaur in Afghanistan.
(U.S. Army photo by Spc. Joshua Edwards)

7. LMAMS

The Lethal Miniature Aerial Munition System provides Soldiers with a precision-guided, non-line-of-sight aerial munition. The system can be employed in less than two minutes and allows operators to visually confirm a target prior to engagement. The Soldier also has the option to abort a mission up to two seconds before detonation and to redirect the munition to a safe area, minimizing collateral damages.

8. KRAKEN

The Combat Outpost Surveillance and Force Protection System, nicknamed the Kraken, provides Soldiers with a transportable,

single-container surveillance and force protection system. Its plug-and-play design allows units to set up just the parts of the systems required for their specific situation. REF partnered with Joint PM Guardian to devise the system and after the initial equipping, REF fully transitioned the project to the PM.

9. MINOTAUR

In September 2011, the REF deployed the Minotaur, a remote-controlled Bobcat with a front-mounted mine roller used for IED detection. Its design supports operations in mountainous terrain and the robotic control lets units operate from a safe standoff distance. A second iteration of the Minotaur is equipped with ground penetrating radar for better IED detection.

10. EXPEDITIONARY LAB (EX LAB)

Though the REF maintained forward, fixed-site workshops in Afghanistan since 2004, the organization partnered with government, industry and academia in 2011 to design and manufacture containerized engineering labs that include 3D-printers, a Computer Numerical Control machine, a wide array of fabrication tools and a global communications system that allows reach back to REF headquarters. The labs are easily relocatable to smaller forward operating bases.



The Ex Lab allows Soldiers in the field to fabricate tactical solutions to fill capability gaps.