Precision Munitions for Close Combat

Raytheon Missile Systems
Mr. Dennis Carroll
VP, Business Development

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Lessons learned at every step are applied to emerging requirements.
Mid-Range Munition (MRM)

- Provides MCS and Abrams with Precision BLOS Capability
- Increases Survivability versus Long Range Weapon Systems

- Autonomous Dual Mode Seeker
- Range From 2 to 12 Km
- MBTs, Light Armor, Self Propelled Howitzer, Walls, and Bunkers
- Includes Adaptation of Combat Proven Tracker and Warhead

Proven technology, Mature design, Multi purpose lethality
Excalibur Combat Success – HOOAH!

“Never in my wildest imagination as a field artilleryman did I expect to see two consecutive rounds go through a roof into a house and have the effects that we needed to destroy that particular target.”

LTC Martin Clausen
Commander
1st Battalion, 82nd Field Artillery Regiment
Inside the Army
28 May 2007

America’s First Team First-ever to Fire Excalibur Precision Munition in Combat

Story by Spc. Jeff Ledesma Posted on 05.23.2007 at 10:27AM. Soldiers of the 1st Brigade Combat Team, 1st Cavalry Division fired the round from their M109A6 Paladin howitzer on Camp Taji, Iraq. The event marked the first-ever operational firing of the XM982 Excalibur projectile.
Excalibur Fielding

- Excalibur’s Operational Utility Expanded
  - Increased Accuracy
  - Fail Safe Arming
  - Terminal Arming Criteria

- ORD Requirements Exceeded
  - 40 Km Range
  - 6 Meter CEP

Danger close employment from “down-the-street”
ERGM Builds on Excalibur Success

- Life Cycle Costing
  - Precision Common Guidance
  - Common Development Environment
  - Common Factory Environment

- ERGM Progressing with Reliability/Producibility
  - Engineering tests to verify redesign activities
  - Reliability Growth Test Rounds
    Reliability verification
  - Land Based Flight Testing
  - End-to-End Testing

ERGM range and accuracy proven
Counter Rockets, Artillery & Mortars

- Positive Command & Control
- Positive Target Identification
- Quick Response
- Capability Against a Large Target Set
- Programmable Engagement and Safe Approach Zones
- Limit Collateral Damage

Demands a system which can neutralize multiple threats & types in a single engagement

Phalanx can provide high value site defense
SeaRAM – Cruise Missile Defense

Anti Ship Missile Threats

Helo Air Surface (HAS) Threats
The Silent Guardian Protection Systems

- Less-than-lethal Protection System
  - “Active denial” repel effect against people
  - Demonstrated safe and effective in over 10,500 lab and field engagements
  - Max effective range > 250m

- Integrated sensors provide additional situational awareness capability

- Video display and joy stick control

- 360° coverage
Active Denial System Advanced Concept Technology Demonstration Media Day

New Capabilities and Old Lessons

- Test Early – Test Often
- Requirements Impact Cost
- Rate Yields Savings
- Spirals Facilitate Fielding
- Reuse Lowers Cost
- Requirements will Change

SeaRAM  CRAM High Value Site Defense