



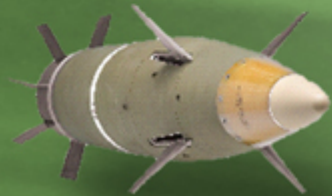
Precision Munitions for Close Combat



Raytheon Missile Systems

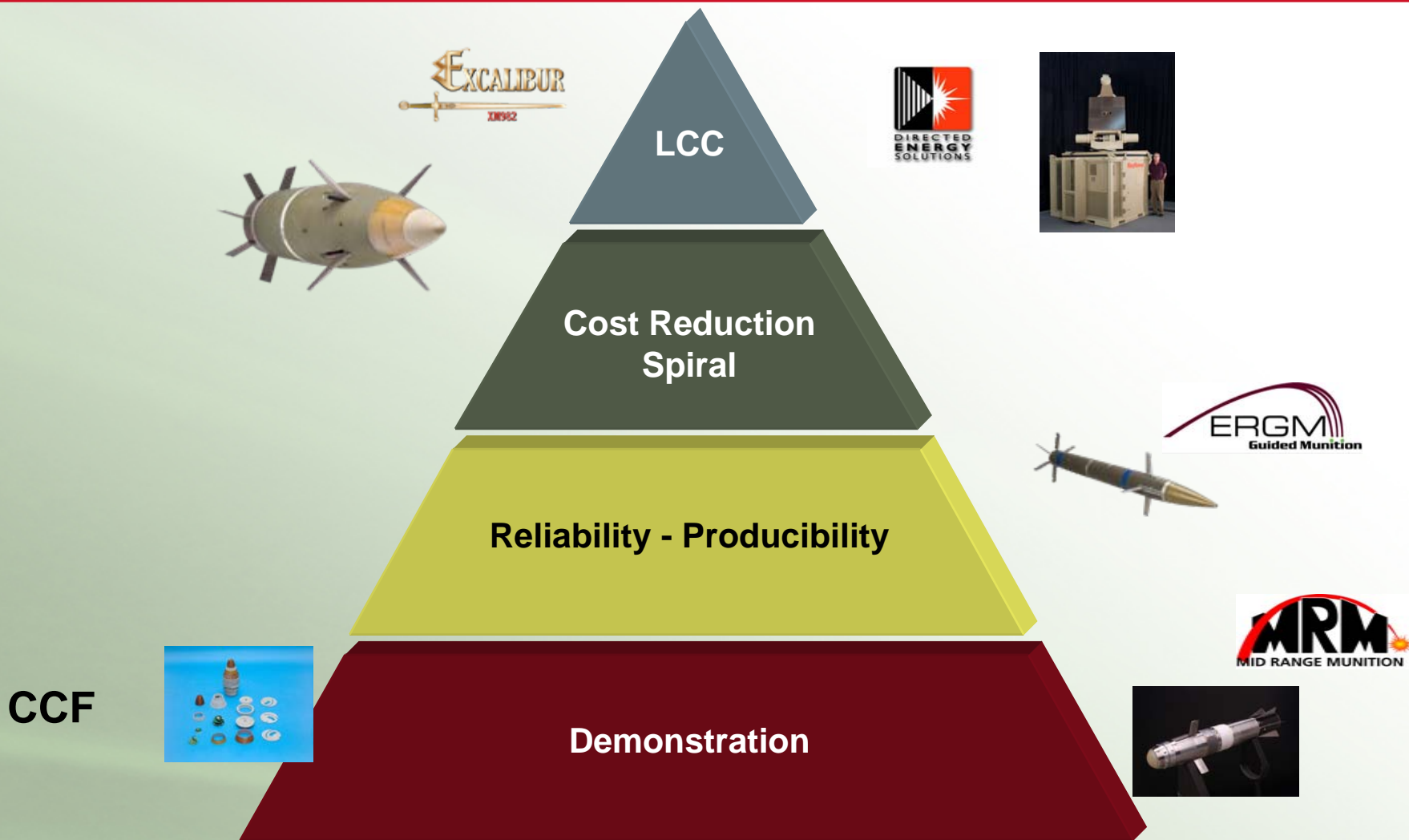
Mr. Dennis Carroll

VP, Business Development



June 2007

Leveraging Results

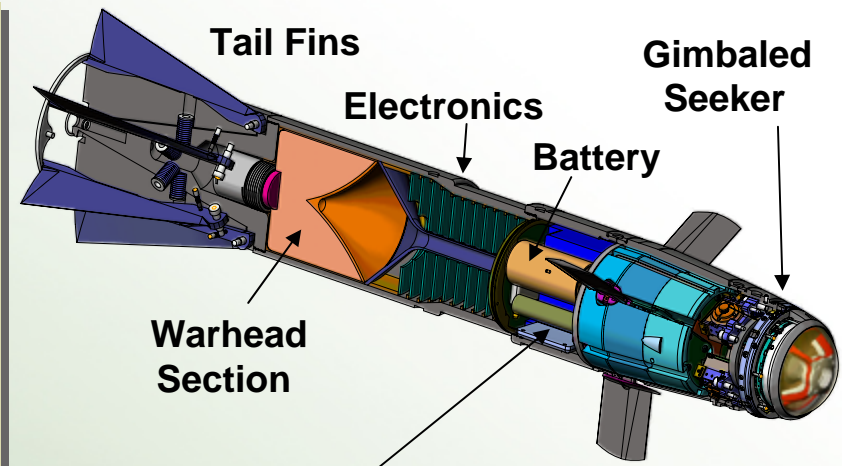


Lessons learned at every step are applied to emerging requirements

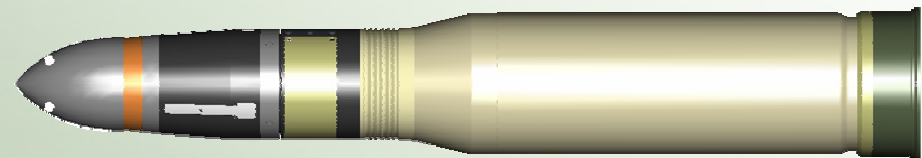
Mid-Range Munition (MRM)

- 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



Inertial Measurement Unit (IMU)



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.

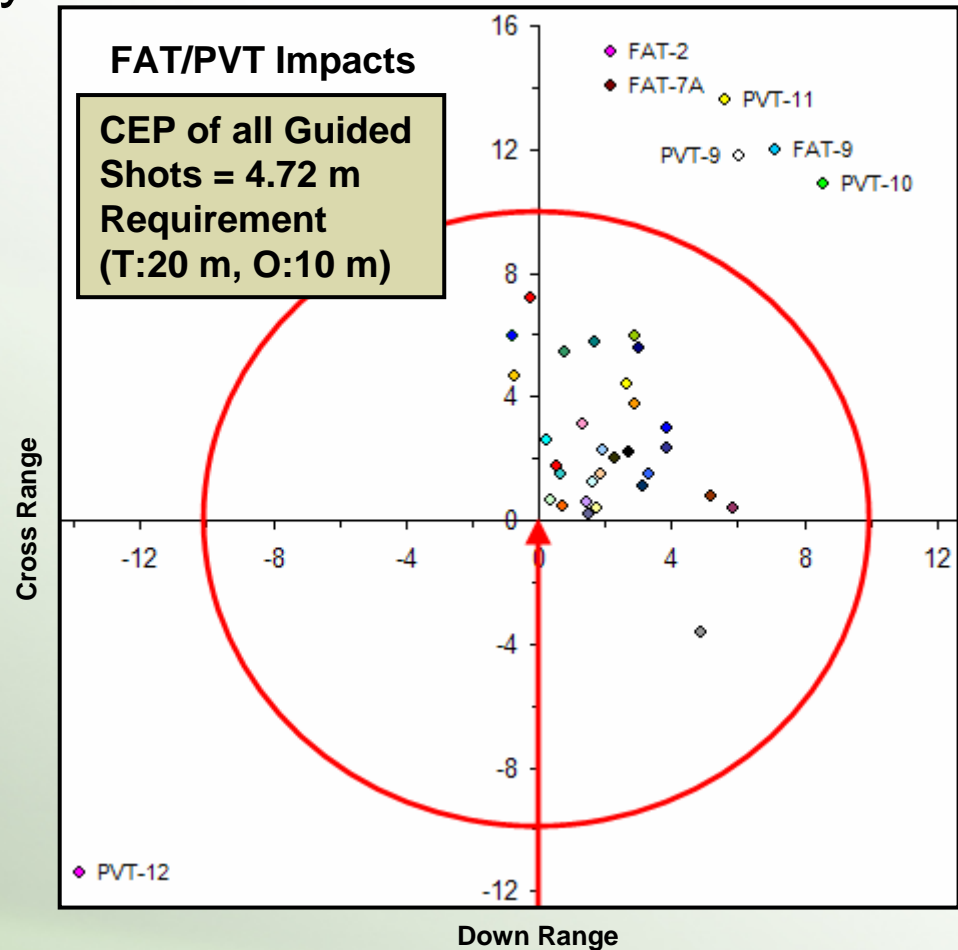
Excalibur Fielding

■ Excalibur's Operational Utility Expanded

- Increased Accuracy
- Fail Safe Arming
- Terminal Arming Criteria

■ ORD Requirements Exceeded

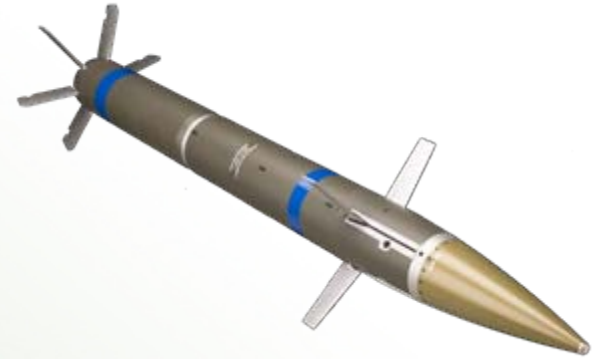
- 40 Km Range
- 6 Meter CEP



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

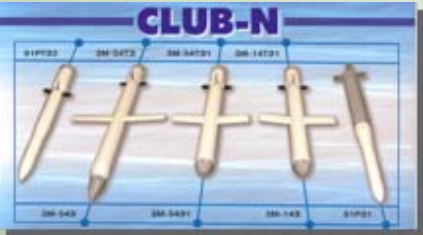


Phalanx can provide high value site defense

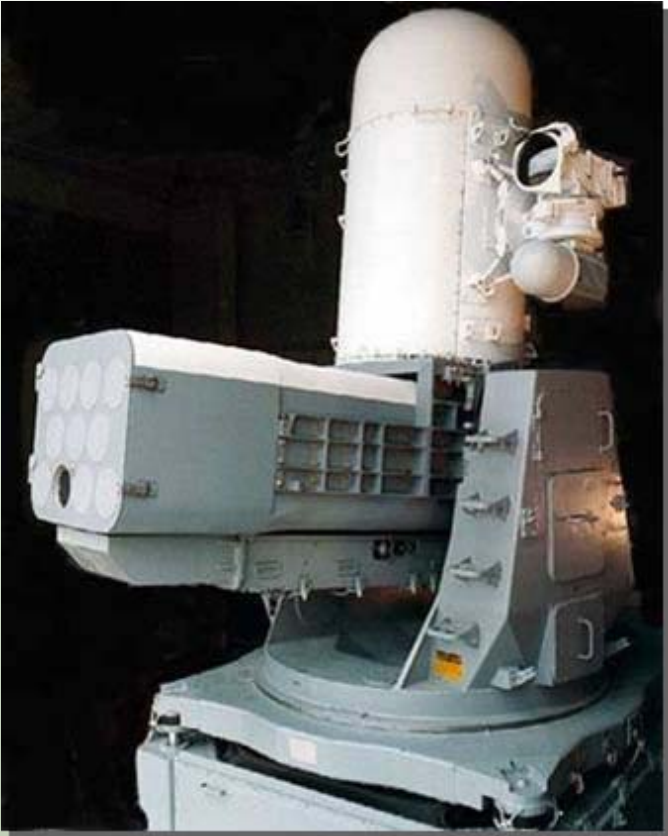
Demands a system which can neutralize multiple threats & types in a single engagement

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



Silent Guardian Demonstration

Active Denial System Advanced Concept Technology Demonstration Media Day



**Associated Press reporter Elliott Minor
participated in the Active Denial System
Advanced Concept Technology Demonstration
Media Day at Moody Air Force Base, GA, on
24 January 2007.**

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



CCF

