



Non Line Of Sight-Launch System

(NLOS-LS)

PAM Overview

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Raytheon Missile Systems

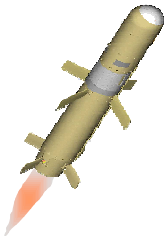
Raytheon

LOCKHEED MARTIN 



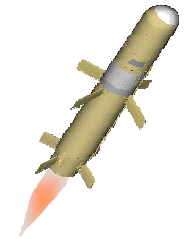
PAM Requirements

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CURRENT

FUTURE



	CURRENT	FUTURE
RANGE	40 km	60 km
BATTLE DAMAGE INFORMATION	Yes	Yes
AUTONOMOUS ENGAGEMENT	ATA (UCIIR)	Theater-specific Updates
EXTERNAL DESIGNATION	Yes Semi-Active Laser	Yes Semi-Active Laser

Target Set: T-90, BMP-2, Field Fortifications

Raytheon



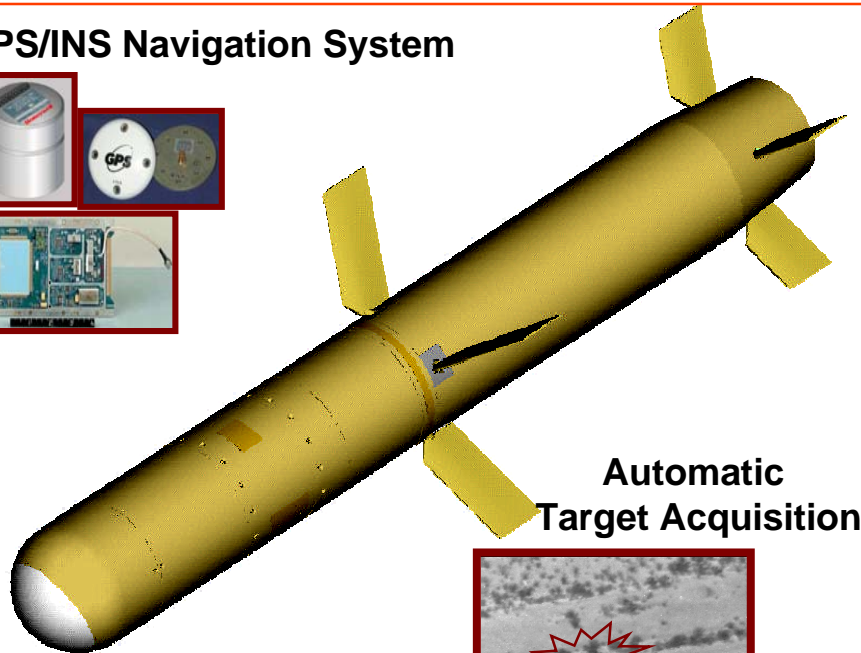


Precision Attack Missile Technical Achievements

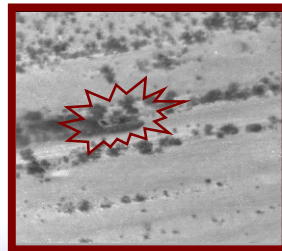
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GPS/INS Navigation System



Automatic
Target Acquisition



Multi-Mode Seeker

- Semi-Active Laser (SAL)
- Un-Cooled Imaging Infra Red (UCIIR)

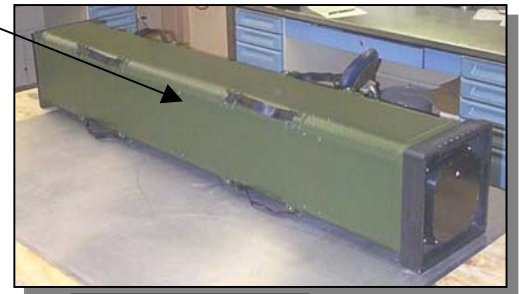
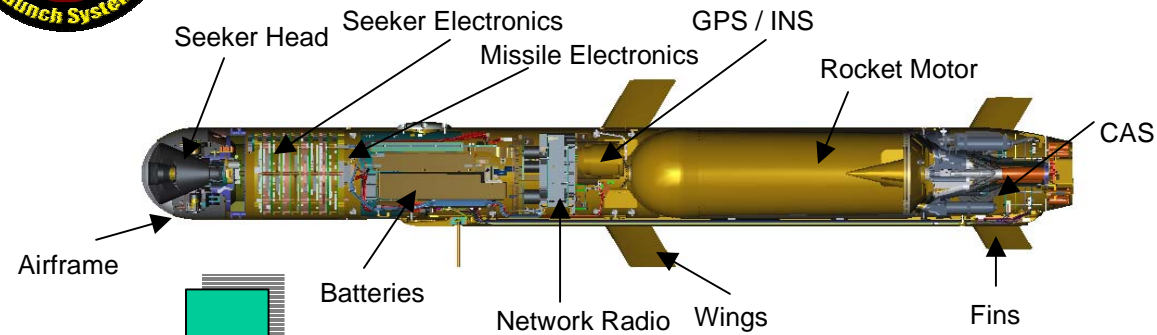


- 2nd Successful Control Test Flight (Jun 2003)
 - Demonstrated Pintle Rocket Motor
 - Missile Flew 19.5 kms with a Boost Glide Trajectory and Hit Within .74M (29”) of Target Center
- Guided Test Vehicle (GTV2) SAL mission successfully engaged T72 (Nov 03)
- Pintle Rocket Motor (Missile Flight)
 - Extends Range Variable Speed Enhances Search and ATA Capability
- GPS/Inertial Navigation System (INS) Missile Flight
 - Extremely Accurate Guidance System in Jammed and Un-jammed Environment
- Multi-Mode Seeker (Flown Captive Flight Test)
 - SAL and Uncooled IIR Seeker Functioned Perfectly Flown under Helicopter
- Automatic Target Acquisition (Flown Captive Flight Test)
 - Ability to Recognize Targets in Open Terrain

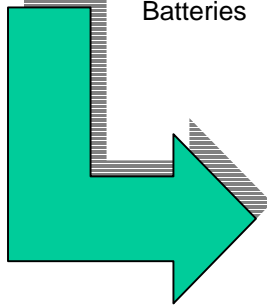
PAM Provides A 40km Precision Kill Capability Against Moving Armored & Soft Targets Using Laser Guidance or Automatic Target Acquisition



Demonstration vs. Tactical PAM

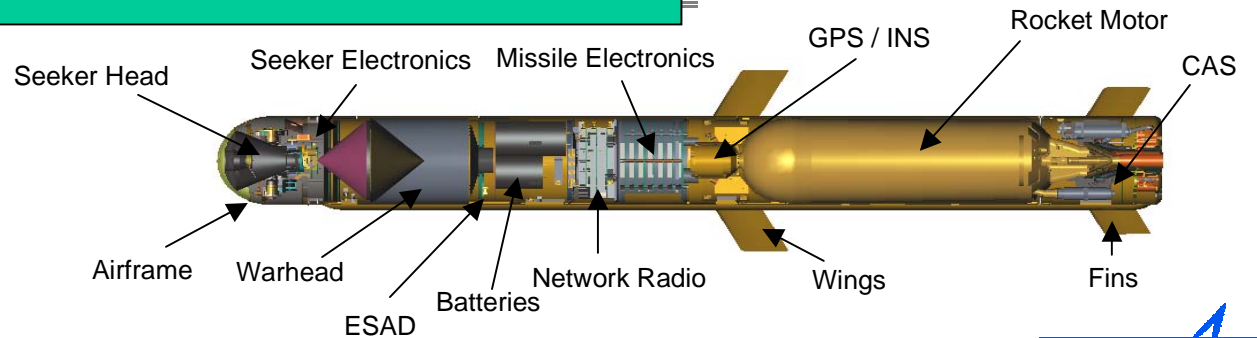
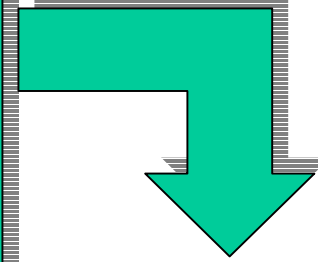


DEMO



<u>System</u>	<u>Demo To Tactical</u>
• Seeker Head	Producibility
• Seeker Electronics	Producibility / Design Enhancement
• Missile Electronics	Producibility / Design Enhancement
• Warhead	New
• ESAD	New / Commonality
• GPS / INS	Commonality
• CAS	Commonality
• Rocket Motor	Producibility / Design Enhancement
• Airframe	Producibility / Design Enhancement
• Wings	Producibility
• Fins	Producibility
• Batteries	New
• Network Radio	Directed Change
• Canister	Producibility

Tactical





PAM
Guided Test Vehicle 2
Flight Test



NLOS-LS PAM

Precision Engagement





Back Up

Raytheon

LOCKHEED MARTIN 



Raytheon PAM & CLU Technical Maturity

Raytheon



Accomplishments

- ? World's First Variable Thrust Solid Rocket Motor
- ? World's First Dual Mode Uncooled Semi-active Laser Seeker
- ? Industry First Platform-independent Vertical Launch
- ? Industry First 7" Concentric Canister Launcher
- ? 3 Successful Guided Flight Tests, Passive IR, ATA Demonstrated

PAM - BLK-I (2008)

Accuracy Delivery:	5.0 M CEP
Hit: UCIR w/ATR:	0.5 M CEP
SAL:	0.25 M
Seeker:	UCIR w/ATR; SAL
Warhead:	Shape Chg/Blast Frag - ~17lb
Guidance	GPS/INS
Uplink/Downlink C2	MSL to MSL C3 Autonomous or MITL
Data Input:	Network (MMA)