

Non-Line of Sight – Launch System Platform Independent Precision Engagement System



Precision Attack Missile (PAM)



Loitering Attack Missile (LAM)

Precise and persistent fires for both Army and Navy applications.

Benefits

- Precision Attack Missile capable of in-flight retargeting
- Loitering Attack Missile incorporates surveillance, targeting, BDA and terminal attack with the same missile
- PAM/LAM with ATR and terminal guidance precludes collateral damage
- Increased number of stowed kill per system (15 per C/LU); platform independent
- HMMWV transportable with C-130 drive on/off capability
- Transportable by UH-60, CH-46, CH-47, CH-53, and V-22 aircraft

NLOS-LS

Raytheon Missile Systems and Lockheed Martin Missiles and Fire Control formed the NetFires LLC, a limited liability company, to pursue missile and launcher development and production for the U. S. Army's Non-Line of Sight – Launch System (NLOS-LS), previously known as NetFires Defense Advanced Research Projects Agency. The founding companies jointly manage the LLC. Products under development include a Precision Attack Missile (PAM), Loitering Attack Missile (LAM), and an autonomous Container/Launch Unit (C/LU).

The NetFires LLC is under contract to the Army's Project Office, a part of PEO Missiles and Space of Huntsville, Ala., for SDD (System Development and Demonstration) of PAM, LAM, and C/LU. All elements have been demonstrated under DARPA contracts. Although the two missiles have significantly different mission profiles, they operate as part of a system that includes a common launcher. Developing the systems together

will enhance commonality of components as well as command and control interface through a networked data link providing in-flight updates to each missile with ground and airborne sensor nodes.

The NLOS-LS weapon system is capable of providing precision Non-Line of Sight fires for the U.S. Army's Current and Future Modular Forces and Special Operations Forces. It is a platform independent, self-contained system capable of autonomous or man-in-the-loop operations. NLOS-LS has joint service applicability for the Navy and is included as a weapon module on the U.S. Navy's Littoral Combat Ship (LCS) and Unmanned Surface Vehicle (USV).

PAM

The PAM is a direct attack missile that is 7 inches in diameter and weighs about 117 pounds and is effective against moving and stationary targets at ranges from 0 to 40 kilometers. It will include a variable thrust motor,

dual-mode precision uncooled infrared/semiactive laser seeker and a large multimode warhead effective against both hard and soft targets.

LAM

The LAM is an expendable loitering, hunter-killer that is 7.5 inches square and weighs about 117 pounds. It is capable of searching a large area using a laser radar (LADAR) seeker with automatic target recognition. It will have a 30-minute loiter time at 70 kilometers capability using a micro-turbojet engine and a warhead payload.

NLOS-LS is extremely flexible with respect to platform employment options; tailorable to meet the requirements of the Army's Current and Future Modular Brigades as well as Navy surface warfare combatants. NLOS-LS provides Army/Navy commanders with immediately responsive, precision fires against both moving and stationary land and sea targets.



Extensive Engineering Tests



Vertical Launch Capability Validated



PAM Warhead Effectiveness



PAM Seeker Image of Land and Sea Targets



Wind Tunnel Tests



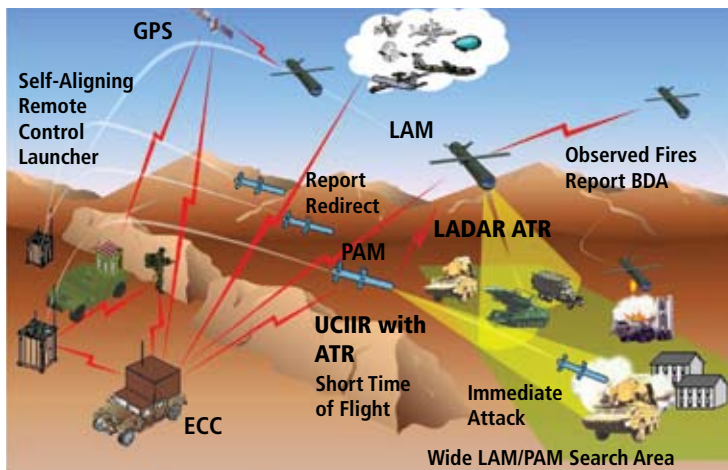
Captive Flight Tests



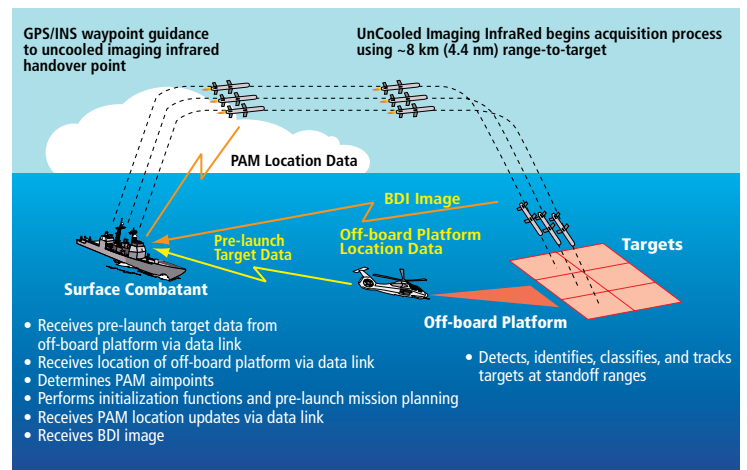
LAM in Flight



Captive Carry Tests



NLOS-LS Notional Army Concept of Operation



NLOS-LS Notional Navy Concept of Operation

NLOS-LS Specifications

C/LU	15 canistered missiles Self-locating with networked radio Autonomous vertical launch
Weight:	Approximately 3,150 lb
PAM	
Range:	0–40 km
Diameter:	7-in diameter, 117 lb
Seeker:	UCIIR/Semiactive laser (UCIIR/SAL) with Automatic Target Recognition (ATR)
Data Link:	Networked with in-flight updates, retargeting and images
LAM	
Range:	70 km; 30-min loiter
Diameter:	7.5-in square, 117 lb
Seeker:	Laser radar (LADAR) with ATR
Data Link:	Networked for in-flight updates, retargeting and images



Container/Launch Unit (C/LU)



Platform Independent C/LU Provides Unlimited Mobility Options

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 Precision Fires



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