

Stand Off Precision Guided Munitions Air-launched Loiter Munition (ALM) Assessment Criteria

PEO-Fixed Wing is looking for mature loiter munitions that can demonstrate air-launch capability. Development should be primarily focused on design modifications to aircraft integration and enabling air-launch of systems.

This solicitation requests white papers to describe the current capabilities of off-the-shelf Loiter Munitions and what can be ready for air-launched flight demonstration by the end of 2024. The exact date, location, and test aircraft are still TBD and will be informed by the art of the possible during the Assessment Event.

Systems will be reviewed by USSOCOM stakeholders and Subject Matter Expert's (SME's) to identify vendors for the SOFWERX Assessment Event (AE) and follow-on participation in a flight demonstration. The ALM Flight Demonstration will provide USSOCOM a pathway to ultimately down-selected systems for full integration, developmental/operational testing, production and fielding.

In addition to the Assessment Criteria below, Vendors are encouraged to include timelines and limitations to being ready for the Phase 5 Flight Demonstration.

Demo Criteria:

(Assessment Criteria to be evaluated during the SOFWERX Phase 5 Flight Demonstration in 2024)

Primary Demo Criteria:

01. Air-launch capability – clearly detail how your system can be air launched (ex: Common Launch Tube (CLT), Bomb Rack Unit (BRU), Rail, Ramp, Pallet, Gravity, Other...) to include all compatibility requirements such as interfaces, size, weight, and power.
02. Launch Profile, to include minimum and maximum airspeeds, maximum altitude (MSL), minimum altitude (AGL).
03. Any Aircraft Integration standards used, such as MIL-STD-1760/1553, Universal Armament Interface (UAI), Battle Management System (BMS), Common Launch Tube (CLT), and 14-inch lug racks that may be used to launch from AFSOC or USASOC aircraft, such as the AC-130J, MQ-9, MQ-1, MH-60, AH-6, and others.

Secondary Demo Criteria:

04. Endurance after transit
(desired endurance 45 minutes for CLT ALM, 120 minutes for non-CLT ALM)
05. Range from launch aircraft and controlling operator to ALM

(desired range of 20 nautical miles (nm) for CLT ALM, 60 nm for non-CLT ALM)

06. Airspeeds, to include Cruise and Maximum

07. Payload Capacity or size/volume, weight, and available power (SWaP), to be used for Warhead/Fuse or other Effects. Also, state if warheads are currently integrated, approved, and operational.

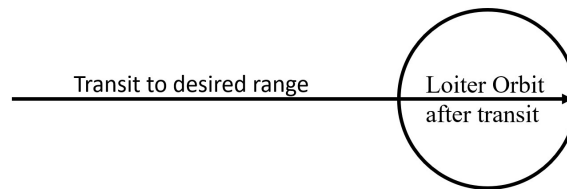
08. Targeting Solutions using Sensors/Seekers (ex: Semi-Active Laser (SAL), Electro-Optical/Infrared (EO/IR), Radio Frequency (RF), Automatic Target Recognition (ATR), Automatic Target Detection (ATD)), state what is currently available as well as the SwaP for a replacement sensor/seeker. With currently available sensors/seekers, what target sets are they optimized for and what are the link requirements?

09. Radios (ex: Command and Control (C2) Data-Link, Full Motion Video (FMV) stream, Telemetry, Transponder, Flight Termination System) and types of encryption

10. Technology Readiness Level

11. Risk Reduction efforts completed and planned prior to being ready for a Government Flight Demonstration

Endurance at Range:



Developmental Criteria:

(Notional and subject to change, additional Assessment Criteria to be evaluated during initial Developmental Testing of an All-Up-Round (AUR) in 2025, not required to be demonstrated in 2024)

12. Alternative Precision, Navigation, and Timing (Alt-PNT) as a back-up to M-Code GPS

13. Accuracy in Circular Error Probably 0.90 (CEP-90) for fixed and moving targets, with and without GPS, with and without SAL.

14. Live Fire effects on target

15. Any Environmental Constraints/Considerations (ex Temp, Shock, Vibe, moisture, EMI/EMC, HERO, HERP, HERF)

16. Autonomy, Levels of System Interface – launch, autopilot, navigation, sensor, ATD, ATR, full kill chain...

17. Autonomy, Level of Human Interface - Man-In-The-Loop (MITL), Man-On-The-Loop (MOTL), or Fully Autonomous.

18. Captive Air Training Munition (CATM) or other test articles/simulators that may be used for training and engineering purposes, such as simulate launch or post launch control.

19. Modular Open System Approach

Operational Criteria:

(Notional and subject to change, additional Assessment Criteria to be evaluated during

Operational Testing (OT), follow-on Developmental Test (DT), or other events in 2026, not required to be demonstrated in 2024)

20. Any Low Probability of Intercept/Detection (LPI/LPD) capabilities
21. Any Program Protection implementation, such as Cybersecurity, Anti-Tamper, or Supply Chain Risk Management (SCRM)
22. Model Based Systems Engineering
23. Production Capabilities (estimating 50-300/year)
24. Production Rough Order of Magnitude (ROM) per Unit Cost for qty-50/100/150/200/300
25. ROM for flight demonstration (1-Ground Test, 1-Captive Carry, 1-Safe Separation, 3-live/inert ALMs)