

Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS)

The Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) is an airborne radar platform designed to provide surveillance and fire control quality radar data on Land Attack Cruise Missiles and other airbreathing targets. The system also acquires and tracks moving surface targets and supports detection of tactical ballistic missiles. A JLENS system consists of two aerostats, one containing a Surveillance Radar (SuR) and one containing a Precision Track Illumination Radar (PTIR). The aerostats are non-developmental 71-meter, unmanned, tethered, non-rigid aerodynamic structures filled with helium and air. Each aerostat is tethered to a mobile mooring station and attached to a processing station via a fiber optic/power tether. The SuR provides the initial target detection and then cueing to the PTIR, which generates a fire control quality track. The JLENS system is integrated into the Joint Tactical Architecture via Link 16, Cooperative Engagement Capability, Single-Channel Ground and Air Radio System, and Enhanced Position Location Reporting System. The system provides key contributions to generation of a Single Integrated Air Picture, through the fusion of high accuracy long-range tracking and target classification information with that of other sensors in the Joint Air and Missile Defense architecture. Both radar systems will include Identification Friend or Foe interrogators.

Shooters such as Patriot, Navy Standard Missile, the Marine Corps Complementary Low Altitude Weapons System, and the Army Surface Launched Advanced Medium-Range Air-to-Air Missile can use the JLENS PTIR data to engage low-flying terrain masked cruise missiles before their own ground-based sensors can detect them. JLENS supports air-directed surface-to-air-missile and air-directed air-to-air missile engagements through both the engage on remote and forward pass mechanisms.

The JLENS program is executed in two blocks. Block 1 develops the PTIR fire control radar, which includes a sector search capability. Block 2 develops the full azimuth 360 degree SuR and demonstrates its ability to hand over targets to the PTIR for engagement execution. A complete JLENS system consists of one Block 1 PTIR and one Block 2 SuR. The purchase of 18 JLENS systems consists of 18 PTIRs, 18 SuRs, 36 Mobile Mooring Systems, and 36 processing systems.

TEST & EVALUATION ACTIVITIES

- DOT&E has observed a series of subsystem design risk reduction presentations and subsystem survey reviews.
- Initial test planning has commenced with the formation and convening of a JLENS Test and Evaluation Integration Working Integrated Product Team.
- A draft Test and Evaluation Master Plan has been completed.
- DOT&E has completed a final draft of the Independent Evaluation Plan and will begin coordinating it with the Army's Developmental Test and Operational Test agencies.
- The JLENS program participated in the Joint Combat Identification Evaluation Team 02 (JCIET 02) Exercise using the Prototype Processing Station to demonstrate potential JLENS value added to the war fighter.



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ARMY PROGRAMS

TEST & EVALUATION ASSESSMENT

JCIET 02 was used to provide a venue for Concept of Operations and Tactics, Techniques, and Procedures development. During JCIET 02, the JLENS Prototype Processing Station demonstrated the ability to receive tactical information via Link-16, using a Multifunction Information Distribution System terminal. After the exercise, Army Evaluation Command determined that an Air and Missile Defense Workstation operator, with minimal additional training, could conduct mission operations.