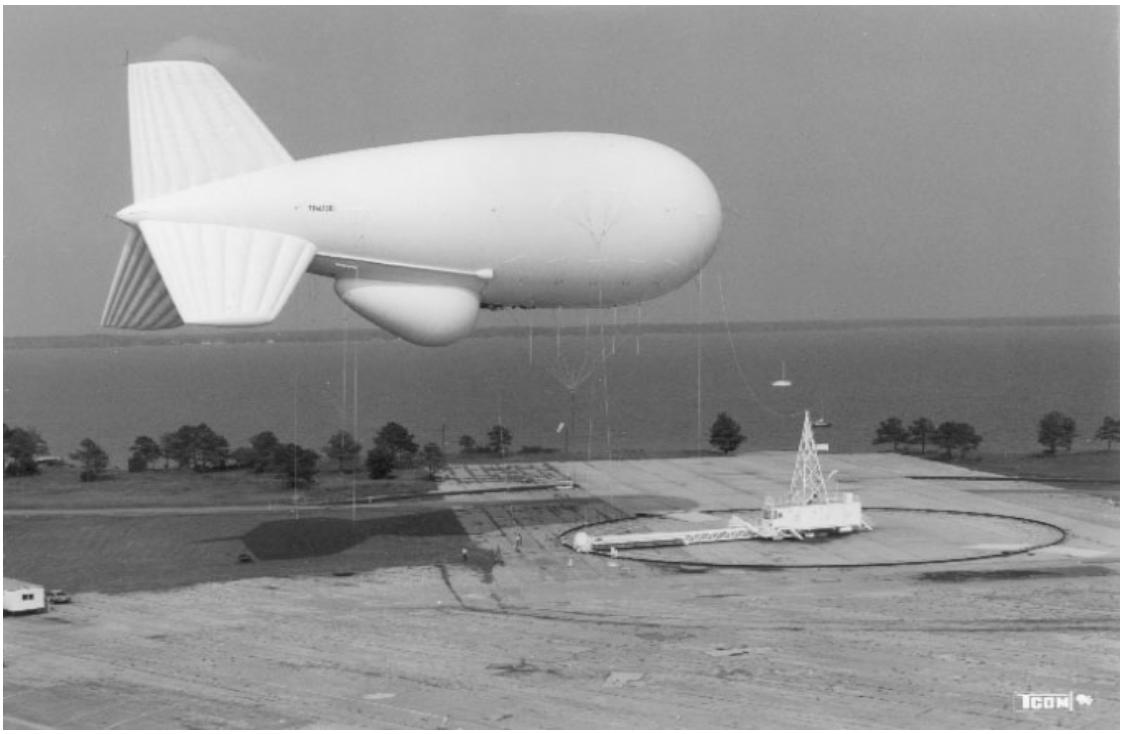
JOINT LAND ATTACK CRUISE MISSILE DEFENSE (JLACMD)
ELEVATED NETTED SENSOR SYSTEM (JLENS)



Army ACAT II Program

Total Number of Systems:	12
Total Program Cost (TY$):	$3.8B
Total Production Cost (TY$):	$2.1B
Average Unit Cost (TY$):	$175M
Full-rate production:	Block 1: FY09
	Block 2: FY11

Prime Contractor

Raytheon

SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2020

The Joint Land Attack Cruise Missile Defense (JLACMD) Elevated Netted Sensor System (JLENS) will enhance surveillance capability and provide air defenders with improved ability to observe, assess, and support engagements over the entire air battlespace, enabling ***precision engagement*** through ***information superiority*** to the ***dominant maneuver*** force as they engage the enemy. The ***full-dimensional protection*** pillar of ***Joint Vision 2020*** addresses the need to protect U.S. forces from this very technology, which the U.S. is attempting to exploit. JLENS provides a critical link against the number-one priority of the full-dimensional protection pillar: ***countering air and missile threats***.

BACKGROUND INFORMATION

JLENS is an airborne radar platform designed to provide surveillance and targeting quality radar data on Land Attack Cruise Missiles (LACM) and other air breathing targets. The system also acquires

and tracks surface moving targets and supports detection and trajectory prediction of tactical ballistic missiles. A JLENS system consists of two aerostats, one containing Surveillance Radar (SuR) and one containing a Precision Target 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 through a fiber-optic powered tether. The SuR provides the initial target detection, cueing the PTIR, which generates an engagement quality track. The JLENS system is integrated into the Joint Tactical Architecture via TADIL-J, CEC, SINCGARS, and EPLRS capability. 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 Theater 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 (CLAWS), and the Army HUMRAAM [HUMVEE mounted Advanced Medium Range Air-to-Air Missile (AMRAAM)] can use the JLENS PTIR data to engage low-flying terrain masked LACMs before their own ground-based sensors can detect them. JLENS supports Air-Directed Surface-to-Air-Missile (ADSAM) and Air-Directed Air-to-Air Missile (ADAAM) engagements through both the engage on remote and forward pass mechanisms.

The JLENS program is being executed in two blocks. Block 1 develops the PTIR fire control radar, which has a sector search capability. Block 2 develops the full azimuth 360° SuR and demonstrates its ability to hand off 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 12 JLENS systems consists of the purchase of 12 PTIR, 12 SuR, 24 Mobile Mooring Systems, and 24 processing systems.

TEST & EVALUATION ACTIVITY

A prototype system consisting of surrogate radars was used to demonstrate potential military utility of air directed SAMs. The prototype system demonstrated a forward pass capability, acquiring the target and guiding an AMRAAM launched from a CLAWS and HUMRAAM, to shoot down a BQM-74 drone in a Joint Theater Air and Missile Defense Organization sponsored experiment. In these demonstrations, the HUMRAAM launched its missile, based on JLENS data, against a target that the HUMRAAM could not see because of terrain masking. The HUMRAAM then passed control of the AMRRAM to the JLENS radar, which could detect the target. The JLENS surrogate successfully guided the missile to the target.

The Army is currently writing a JLENS TEMP. The operational testing of JLENS will be structured to ensure that it can support Army, Navy, and Air Force LACM defenses and kill chains, including Medium Extended Air Defense System (MEADS), PATRIOT, AMRAAM, and Standard Missile.

TEST & EVALUATION ASSESSMENT

N/A