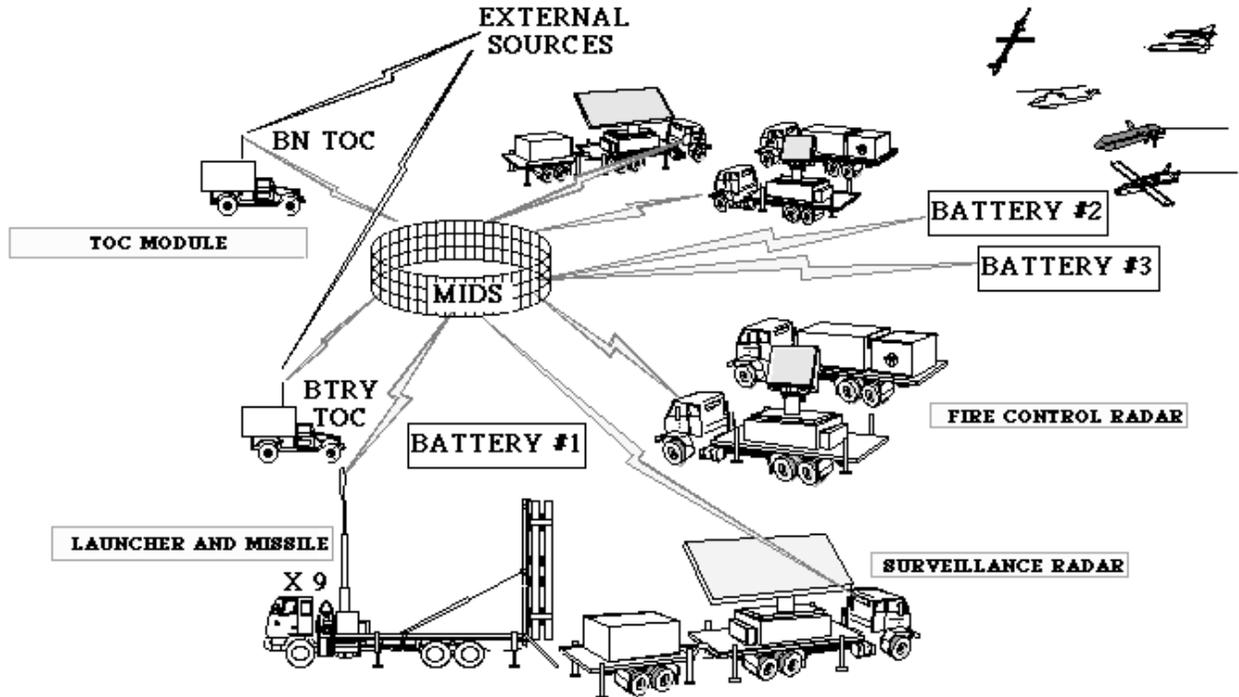


MEDIUM EXTENDED AIR DEFENSE SYSTEM (MEADS)



Army ACAT IC Program

Total Number of Systems:	TBD
Total Program Cost (TY\$):	TBD
Average Unit Cost (TY\$):	TBD
Milestone II:	TBD
Full-rate Production:	TBD

Prime Contractor

MEAD International (Lockheed Martin,
DaimlerChrysler Aerospace, and Alenia)

SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2010

The Medium Extended Air Defense System (MEADS) will be a highly mobile, low to medium air defense system designed to replace the HAWK and PATRIOT air defense systems. The MEADS weapon system is needed to ensure protection of maneuver forces. It will be a key element of the theater missile defense in the Army Air and Missile Defense architecture. The system will provide area and point defense capabilities against tactical missiles (tactical ballistic, air-to-surface, and Anti-Radiation Missiles) and air-breathing threats (fixed- and rotary-wing aircraft, cruise missiles, and unmanned aerial vehicles). The system will consist of a surveillance radar, fire control radar, launcher, missile, and Tactical Operations Center (TOC). It will be capable of autonomous operation. As part of the Army Air and Missile Defense Architecture, the system will be compatible and interoperable with other Army air defense systems and interface with joint and allied sensors and Battle Management Command, Control, Communications, Computers, and Intelligence (BM/C4I) networks. MEADS leverages technology from several programs and incorporates the PAC-3 interceptor as the initial missile.

Conceptionally, a MEADS battalion will consist of three firing batteries and a headquarters battery. Each battery will have nine launchers controlled by a battery TOC. Each launcher will be equipped with eight hit-to-kill missiles. Two radars—an X-band fire control radar and a low-frequency surveillance radar—will be intrinsic to the MEADS battery. External sensors will be able to provide alerting and cueing information to any TOC in the battalion.

The MEADS system is a response to ensure protection of maneuver forces. The system will provide area and point defense capabilities against tactical missiles and air-breathing threats. MEADS will contribute to three of the four *Joint Vision 2010* operational concepts: *precision engagement*, *full-dimensional protection*, and *dominant maneuver* forces. MEADS incorporates state-of-the-art technologies in its sensors, weapons, and BM/C4I systems. *Information superiority* will enable MEADS to be fully capable of operating autonomously or in a network, receiving and exchanging data with other theater air and missile defense systems and external sensors. The MEADS system will help ensure that Joint Forces enjoy *full-spectrum dominance* in the theater by being a primary contributor to *full-dimensional protection* of the *dominant maneuver* forces through *precision engagement* of threat tactical missiles and air breathing threats.

BACKGROUND INFORMATION

The MEADS program was scheduled to transition to the Design and Development Phase in FY99. However, given competing priorities for U.S. Ballistic Missile Defense resources, the U.S. proposed a restructured MEADS program to include a three-year Risk Reduction Effort. This restructured program is based on the PATRIOT Advanced Capability – 3 (PAC-3) missile. Germany and Italy have accepted the PAC-3 missile as the initial interceptor for MEADS. Recently, the U.S. fully funded the MEADS program by adding \$721M from FY02 to FY05. The program schedule supports a U.S. First Unit Equipped (FUE) in FY12. The Army modernization plan for MEADS initially replaces four PATRIOT battalions with 6 MEADS battalions and eventually replaces all PATRIOT battalions with MEADS battalions.

On November 15, 1999, the NATO MEADS Management Agency (NAMEADSMA) awarded a contract to MEADS International (Lockheed Martin, Daimler Chrysler Aerospace AG, Alenia Marconi Systems) to begin work on the next phase of the program. This effort supports the transition of MEADS into the Risk Reduction Effort, which will begin next summer. The Risk Reduction Effort contract award should immediately follow the Transition Effort and tri-national approval of the Risk Reduction Effort extension to the current MEADS Memorandum of Understanding.

The proposed program management structure includes both U.S. and international arrangements. U.S. oversight is accomplished through the Integrated Product Team (IPT) process. The Army's MEADS National Product Office oversees U.S. requirements development and serves as the single point of contact for U.S. support to NAMEADSMA. International oversight is accomplished through the National Armaments Directors and a MEADS Steering Committee. The Army PEO for Air and Missile Defense represents the United States on the Steering Committee. Leadership positions of NAMEADSMA will rotate among the nations.

The MEADS acquisition concept will tailor DoD 5000.2 guidance with the NATO acquisition process. Since NATO defers most risk-reduction activity to the D&D phase, the program will be reviewed at the following key acquisition points:

- The end of PD/V and risk reduction phases (Milestone I-like D&D decision).
- After the Critical Design Review (Milestone II-like system development decision).
- Before starting low-rate initial production.

The Director, BMDO or the Army Acquisition Executive will review the program for U.S. production (two years into the NATO production phase). Program documentation at each decision point will match what would normally be available for U.S. milestone decisions.

Disclosure and transfer of technical data are important features of this international program. The Army, BMDO, and OSD have agreed to a process that streamlines the foreign disclosure approval process and reduces the decision timeline to ten days or less. Disclosure actions that are not processed expeditiously will be elevated to the IPT process for resolution.

TEST & EVALUATION ACTIVITY

T&E IPTs have been held to begin planning the test program. The first international T&E IPT was held in November 1997. Now that the program has been restructured to incorporate the PAC-3 interceptor, the T&E IPT will meet to develop a T&E strategy that builds on the testing conducted as part of the PAC-3 program. A U.S. Lethality Working Group will be formed to develop a U.S. LFT&E Strategy that will satisfy Title 10 requirements. A NAMEADSMA Lethality Working Group will also address lethality issues of concern to the international partners. All T&E activities are essentially on hold pending resolution of funding issues and formal program guidance. The DEPSECDEF has directed the Army and the Ballistic Missile Defense Organization together fund \$720M to fund the program—beginning in FY02.

TEST & EVALUATION ASSESSMENT

The MEADS program is in the requirements development phase. The sponsoring countries are together developing the MEADS system operational requirements. According to draft requirements, the MEADS system must provide area and point defense capabilities against a variety of threat tactical missiles and air-breathing threats. The MEADS mission is complicated by having to accomplish its mission in the maneuver area that can be densely populated with both friendly and threat targets. The system development risks and challenges that exist for all other missile defense systems also exist for MEADS. The MEADS system must acquire, track, and identify both friendly and threat targets, fuse the data, and then effectively engage and kill the threat targets. The difficulty and risk associated with MEADS development is very high.

Due to the requirement to effectively kill multiple types of targets, the T&E program will be complex, difficult, and costly compared to other TMD systems. Its LFT&E program will need to address lethality against a broader target set and more diverse intercept space than those of other TMD systems. We plan to develop a program that includes a balanced mix of testing, supported by modeling and simulation. We have begun coordinating with Germany and Italy to plan a thorough T&E program for MEADS that will satisfy each country's requirements.

