

Executive Summary

Introduction

The FY99 Air and Missile Defense Master Plan (AMDMP) is the ADA branch modernization plan to execute the air and missile defense (AMD) mission on the battlefields of the next century. The AMDMP charts the course to the future for the AMD force of Army XXI, Force 2010, and the Army After Next (AAN). It serves as the single, comprehensive source document for AMD modernization.

The AMDMP is a product of the AMD combat and materiel developer communities. Key contributors to the development and production of this document are the U.S. Army Air Defense Artillery School; Program Executive Office - Air and Missile Defense; Deputy for Systems Acquisition, U.S. Army Aviation and Missile Command; U.S. Army Space and Missile Defense Command; Product Manager, Stinger; Product Manager, Sentinel; and Program Manager, Air and Missile Defense Command and Control Systems.

Major points reiterated throughout the AMDMP are as follows:

- The AMD Modernization Strategy presents a focused modernization effort to replace aging systems and incorporate cutting-edge technologies into the force.
- The threat proliferation trend in the 21st century is toward low-cost, high-payoff, unmanned systems – tactical ballistic missiles, cruise missiles, unmanned aerial vehicles, and rockets.
- The AMD warfighting concept, describing operations in the 2010-2025 time frame, is guided by the Force XXI, Army Vision 2010, Joint Vision 2010, and AAN concepts.
- AMD operations are inherently joint in nature. AMD forces are integral components of the joint AMD force.

AMD Modernization Strategy

The focus of the AMDMP is the AMD modernization strategy. The strategy emphasizes the need to maintain an affordable, capabilities-based AMD force to execute missions in support of the National Security Strategy, the National Military Strategy, and the Defense Planning Guidance. It is consistent with the Army investment strategy and the investment categories. The strategy fo-

cus on Information Dominance and Combat Overmatch capabilities and provides an azimuth for Science and Technology initiatives required for future operational capabilities.

The AMD modernization strategy encompasses programmed and planned modernization efforts during the FY 00-25 time frame. The strategy uses preplanned product improvements to en-

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hance proven systems and introduces new systems to correct shortfalls. The AMD Force XXI of 2005, consisting of the short-range air defense (SHORAD), theater missile defense (TMD), AMD command, control, communications, computers, and intelligence (C⁴I), and National Missile Defense (NMD) systems, evolves into the synergistic

AMD force of 2010 (AMD Force 2010) and the "leap-ahead" AMD force of AAN (AMD Force 2025). These forces have the capability to defeat the evolving threat and ensure protection of the force, given that the modernization strategy, as described, is appropriately funded.

AMDMP Overview

The AMDMP structure systematically lays out the AMD modernization story from early recognition of required capabilities to the fielding of systems (operated by highly trained personnel) that protect the force from aerial threats on the 21st-century battlefields. Chapter 1 provides an overview of the AMDMP and the thought process used in developing the AMD modernization strategy. Chapter 2 describes the evolving threat and the air and missile capabilities of some potential adversaries. Chapter 3 focuses on AMD conceptual operations, using Army Vision 2010 as the baseline, and the required operational capabilities for AMD forces to execute their missions. Chapter 4 describes representative ongoing and planned AMD technology initiatives, experiments, and demonstrations that the branch is pursuing to meet future AMD battlefield needs. Chapter 5 provides an

overview of each AMD system and highlights funding shortfalls that restrict development and fielding of new or improved capabilities. Chapter 6 assesses how well AMD systems fulfill their missions based on the required operational capabilities for the Army Vision 2010 patterns of operation. Chapter 7 shows how AMD soldiers, crews, leaders, and units will train using new and innovative approaches and training devices. Chapter 8 addresses soldier initiatives and the personnel status of the AMD force. Chapter 9 presents the AMD force evolution to the objective division, corps, and theater structures and identifies AMD new equipment fielding schedules. Chapter 10 summarizes the AMD modernization strategy and provides the unprioritized AMD investment recommendations.

Conclusion and Recommendations

The AMD force must prepare to defeat a wide range of threats that are far more lethal than those of the past. To meet this challenge, it must satisfy the required capabilities fundamental to the protection of the force. Inadequate funding, how-

ever, continues to adversely impact the achievement of these capabilities. The modernization investment recommendations (Figure 1) provide a "get-well" plan to ensure the qualitative and quantitative realization of the ADA mission – *protect*

Achieve Information Dominance

- AMDPCS - Develop and field
- FAAD C² - Complete procurement and P³I
- JTAGS - Continue improvements as programmed
- Sentinel - Continue as programmed

Maintain Overmatch Capabilities

- Avenger - Continue improvements as programmed
- Bradley Linebacker - Continue fielding M2A2(ODS) as programmed
- MEADS - Begin design development and procurement of system
- PAC-3 - Continue as programmed
- Stinger Block II - Develop and field
- THAAD - Develop and field

Focus Science and Technology for Essential and Leap-Ahead Capabilities

- JLENS - Develop and field
- NMD - Develop and field

Recapitalization

- PAC-2 - Field GEM+ modifications
- Stinger Block I - Continue as programmed

***Air and Missile
Defense
Force 2010***

Figure 1. Unprioritized Modernization Investment Recommendations

the force and selected geopolitical assets from aerial attack, missile attack, and surveillance – and the evolving AMD operational goal – nothing targets or attacks the force from the air. The recommendations are grouped by Army investment category. Information Dominance is the key enabler for all 21st-century Army and joint operations. Combat Overmatch systems will use in-

creasingly capable improvements to defeat the threat. Investments in Science and Technology will enable the leap-ahead systems envisioned for the AAN. Recapitalization efforts ensure the sustainment of capable systems with relatively small investments.

The AMD strategy focuses modernization efforts to exploit the full array of AMD systems' capabilities to protect the nation and the force.

ADA FIRST TO FIRE.