ADA Yearbook 2001

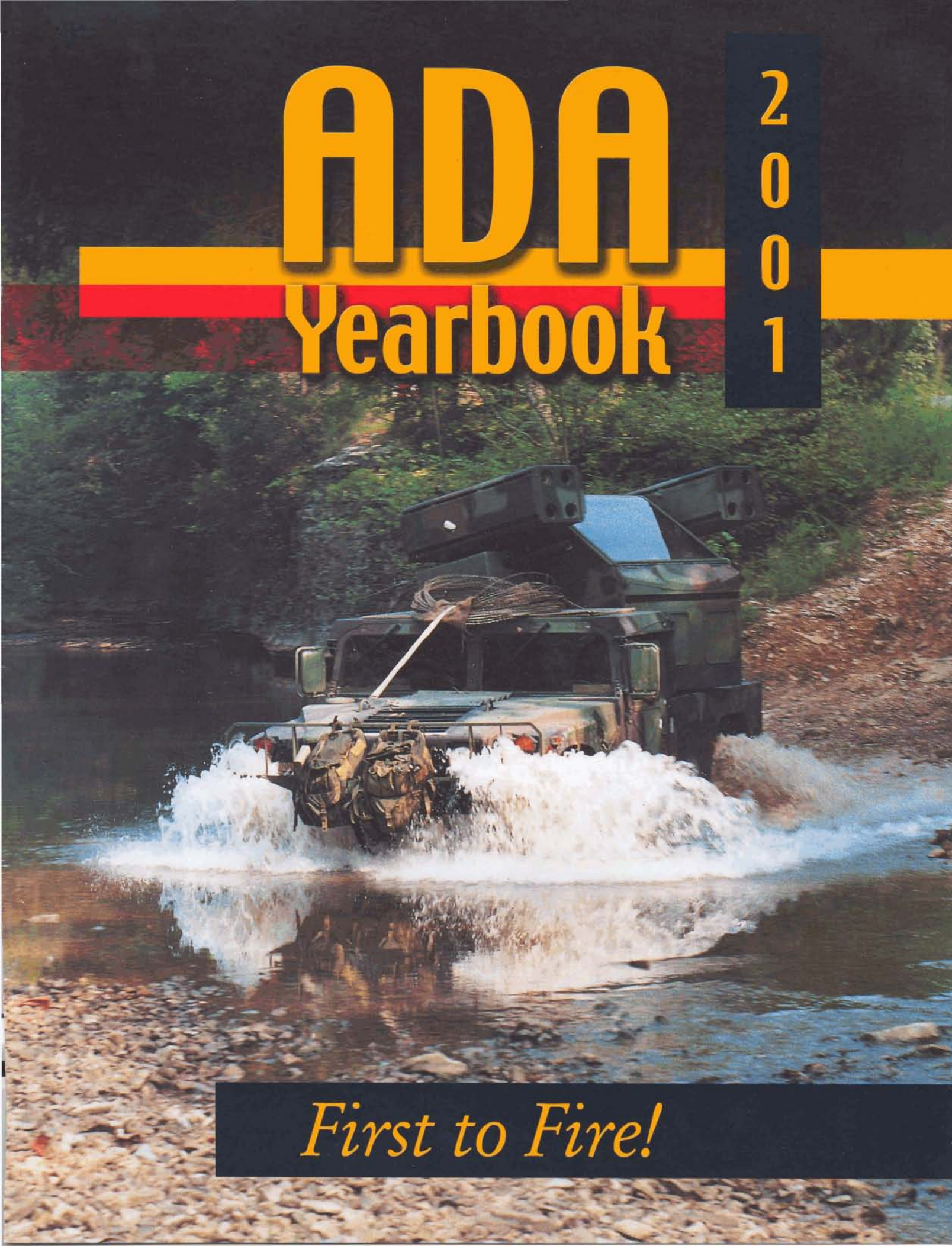

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Table of Contents

Page 3

AMD Transformation Concept: Our Pathway Into the Future
by Major General Stanley E. Green
The Chief of Air Defense Artillery says recent progress in hit-to-kill technologies, a head start in battlefield digitization, the high priority assigned air and missile defense programs, and the excellence of ADA solders will smooth the "First to Fire" branch's transition to the "objective" air and missile defense force.

Page 5

Shield: Shaping the 21st Century Air and Missile Defense Force
by the AMD Operational & Organizational Concept Work Group
The Air and Missile Defense Transformation will enable Air Defense Artillery to fully capitalize on leap-ahead technologies and retain its current warfighting advantages while denying similar advantages to potential enemies.

Page 15

ADA School Transformation: Building the Training Base for the Air and Missile Defense Force of the 21st Century
by Colonel Howard B. Bromberg
The Air Defense Artillery School Transformation will tremendously enhance organizational effectiveness, enabling the school to supply the transforming air and missile defense force with workable doctrine, effective weapon systems, highly competent leaders and superbly trained soldiers.

Page 22

Air Defense Artillery's Future Starts at Reveille
by Command Sergeant Major Mark C. Avery
Air Defense Artillery's command sergeant major evaluates the top issues and developments that affect ADA NCOs and enlisted soldiers in the daily performance of their duties.

26 Fort Bliss Museum and Study Center.

28 Air Defense Artillery School Directory.

32 2001 Worldwide Air and Missile Defense Conference Agenda.

Cover Photo: By Mike McCormick
A U.S. Avenger crosses a water obstacle.
Photo Courtesy of Boeing Company

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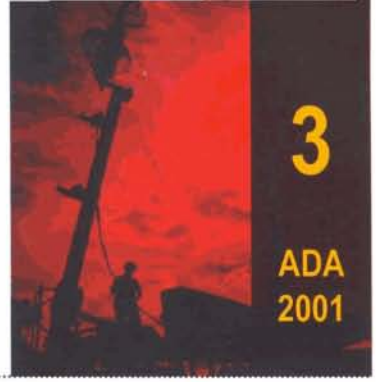
AMD Transformation Concept: Our Pathway Into The Future



by Major General Stanley E. Green

A display of Patriot launchers and Avenger air defense systems flanks General Dwight D. Eisenhower's statue at the U.S. Military Academy. (Photo by Terry G. Smith)

Had a time machine transported General Dwight D. Eisenhower from his World War II headquarters to General H. Norman Schwarzkopf's Gulf War command post, Ike would have felt right at home. As Supreme Commander of the Allied Expedition Force, he knew all about the difficulties of managing coalition warfare on hostile soil.

And Scud attacks would have come as no surprise. V-1 Buzz Bombs, the forerunners of cruise missiles, and V-2 Rockets, the ancestors of tactical ballistic missiles, pounded London and the vital seaport of Antwerp as the Anglo-American armies under Eisenhower's command raced across Europe. (Ike might have forewarned General Schwarzkopf that Coalition air sorties probably wouldn't succeed in their efforts to take out Iraq's mobile Scud missile launchers. Air sorties hadn't worked in Europe either. The V-1s and V-2s kept coming until Ike's advancing armor and infantry divisions overran their launch sites.)

Looking at Schwarzkopf's order of battle, Eisenhower would have been able to reel off the nicknames of familiar divisions — "Big Red One," "Screaming Eagles," "Old Ironsides," "Hell on Wheels." Having sent Sherman tanks into battle against Tiger tanks, Ike would have been comforted to learn that America had the best battle tank, the Abrams, this time around, and he would have been impressed by the new command, control and communications technology, particularly satellite transmissions. But General Eisenhower's overall impression probably would have been that things hadn't changed all that much, and he would have been correct.

The U.S. Army that fought the Gulf War wasn't that much different from the American Army that fought World War II. It was a Cold War force primarily designed to do in World War III the same things the U.S. Army did in World War II. And today's Army is not really that much different from the Gulf War Army, but the Army is about to change, and change dramatically.

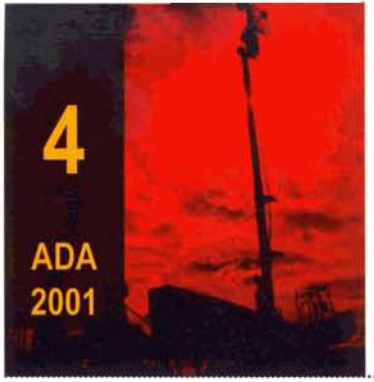
If the time machine that transported General Eisenhower from Operation Overlord to Operation Desert Storm fast-forwarded him to the year 2020 or 2025 and set him down in a "transformed" command and control center, Ike wouldn't feel so much at home. Neither, perhaps, would we. This issue of the ADA Yearbook is about change—Department of Defense Transformation, Army Transformation, and the transformation of Air Defense Artillery into the Air and Missile Defense (AMD) Force of the 21st Century.

In **"Shield: Shaping the 21st Century Air and Missile Defense Force,"** members of the AMD Operational and Organizational Concept Work Group describe the objective AMD force in terms of capabilities (shooter, sensor and command and control element) rather than weapon systems. The reason is that system specifications and nomenclature for "objective" AMD systems are nonexistent. You'll also notice the article refers to "AMD elements" rather than AMD brigades, battalions, batteries or platoons. The reason is that these organizations may, or may not, survive the transformation.

Our expectations for the objective AMD force are high, but at the moment, our AMD defense is thin while the missile threats facing our nation, our armed forces and our allies are immediate and growing. The fielding this year of Patriot Advance Capabilities-3 (PAC-3) systems to our training units and their subsequent fielding to units in the field will significantly improve our capabilities against short-range ballistic missiles.

Patriot was conceived in the 1960s, but testing of the system against ballistic missiles dates only from the Extended Range Interceptor (ERINT) program, the PAC-3 predecessor, in the 1980s. In tests against theater ballistic missiles, we reached the endgame—the crucial moment the missile seeks out the incoming warhead and destroys it by direct impact—11 times and struck the target 9 times. One miss occurred in early ERINT missile testing. During a July 9 test designed to simultaneously engage two targets—a theater ballistic missile and a remotely piloted jet aircraft emitting radar-jamming signals—one PAC-3 missile hit the more difficult target, the jamming aircraft, but the second PAC-3 missile missed the theater ballistic missile. Nevertheless, PAC-3 has established a spectacularly successful track record against short-range ballistic missiles

However, the requirement to counter medium- and long-range ballistic missiles, which might be armed with weapons of mass destruction, remains an urgent requirement. PAC-3 gives us



some breathing space while we await the arrival of the Theater High-Altitude Area Defense (THAAD) system. The THAAD program failed to reach the endgame in six straight tests, but the interceptor was successful in two subsequent tests when test modifications ensured the interceptor reached the end game.

Accordingly, the Department of Defense has restructured the THAAD program, adopting a more conservative development strategy to give defense contractors time to solve the routine engineering and design problems that remain. A preliminary design review is scheduled for late fiscal year 2002. The THAAD system critical design review has been scheduled for early FY 2004, followed soon afterward by the start of engineering, manufacturing and development (EMD) flight-testing. The first intercept flight test of the EMD phase is scheduled for the fourth quarter of fiscal year 2005.

But the all-important hit-to-kill technology breakthrough has been achieved. Employed by transformed AMD elements, PAC-3 and THAAD, along with Avenger and Linebacker or their interim replacements, will adequately shield deployed U.S. forces, their allies and geopolitical population centers until the objective AMD force is in place.

We can count on emerging technologies to empower the objective AMD force to accomplish an expanded set of missions, but new technology and new combat organizations are only part of the AMD Transformation. To imagine that new technologies can compensate for training shortfalls or that recruiting campaigns are adequate substitutes for inspired and enlighten leadership is to disregard the lessons of history. We must succeed on all fronts—resolving training and personnel issues as well as capabilities and materiel issues—for the AMD Transformation to succeed.

In **"ADA School Transformation: Building the Training Base for the Air and Missile Defense Force of the 21st Century,"** Colonel Howard B. Bromberg describes the objective ADA school architecture in significant detail. However, the ADA School Transformation must take place in stride with U.S. Army Training and Doctrine Command Transformation, and as Colonel Bromberg explains, the success of ADA School Transformation depends on adequate funding.

In **"ADA's Future Starts Tomorrow at Reveille,"** Command Sergeant Major Mark C. Avery contends ADA NCOs are too absorbed in meeting the challenges they confront today to worry much about the distant future. As long as the Army meets recruiting and retention goals, develops leaders who can inspire soldiers to follow, and keeps its promise to enhance the quality of life for enlisted soldiers, the Army can count on NCOs to get the job done.

The purpose of Department of Defense Transformation, Army Transformation and AMD Transformation is to maintain and enhance America's status as the world's predominant military power. I doubt that General Eisenhower, having witnessed the almost overnight transformation of America's military from a ragtag force with more cavalry horses than tanks into the juggernaut that rolled across Europe and the South Pacific, would consider our challenge particularly daunting. Ike would advise us as soldiers not to worry too much about new technologies and materiel requirements, but to remember always that the American soldier is America's most important combat edge. He would have counseled us to concentrate on leader development, training and the refinement of tactics, techniques and procedures while encouraging us to look to the future with confidence.

We are equipped with a vision—the AMD Transformation Concept—that provides us a pathway into the future. Our recent progress in hit-to-kill technologies, our head start in battlefield digitization, the high priority assigned air and missile defense programs, and the excellence of our solders give us every reason to believe we can surmount every obstacle on our journey.

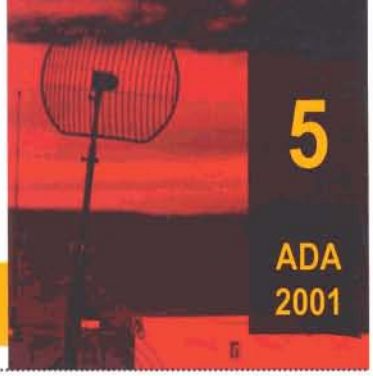
Major General Stanley E. Green is Chief of Air Defense Artillery and Commanding General, U.S. Army Air Defense Artillery Center and Fort Bliss, Texas.

Shield

By the AMD Operational & Organizational Work Group

5

ADA 2001



Shaping the Twenty-First Century Air and Missile Defense Force

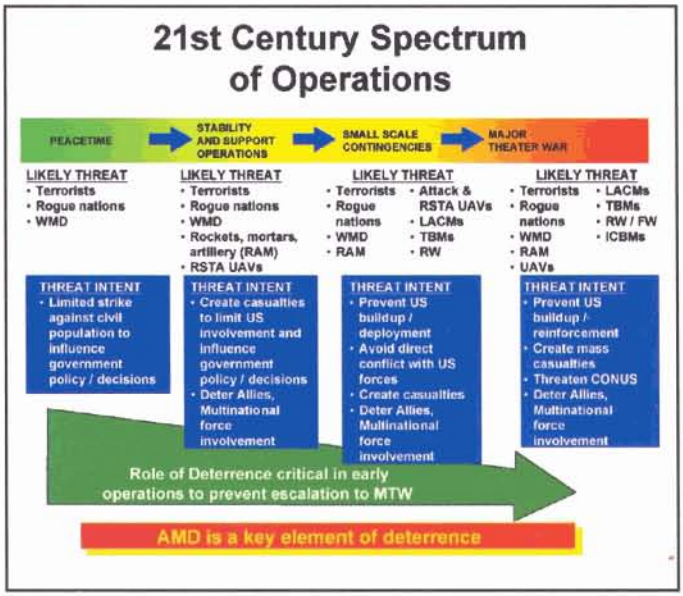
Imperial Rome was first to devise an effective air and missile defense (AMD) shield. Roman legionnaires interlocked their shields above their heads and about their flanks to create a maneuver formation called the *testudo*, or turtle. The turtle's "shell" protected Roman soldiers from arrows, spears, and stones as they advanced against enemy fortifications. In the second millennium, such simple solutions no longer avail, but the requirement for an effective AMD shield remains a geopolitical, strategic, operational and tactical imperative.

In the spring of 2001, Major General Stanley E. Green, Chief of Air Defense Artillery, assembled a work group of AMD experts at the U.S. Army Air Defense Artillery Center, Fort Bliss, Texas. He tasked them to "devise a path of AMD force transformation, supported by analysis, that sustains and reinforces the accomplishment of the AMD mission in support of our transforming force."

Work group members imagined themselves standing atop a vantage point overlooking a theater of war some 20 years in the future. They asked themselves what the AMD force of 2020 would look like if AMD technologies and capabilities progress at the same rate during the first two decades of the 21st century as they did during the last two decades of the 20th century. They envisioned a fully interoperable AMD force capable of providing full-dimensional protection. On the imaginary battlefield below them, forward-positioned robotic AMD elements engaged incoming rockets and artillery and mortar rounds. Directed-energy AMD weapons lashed out at short-range rockets. Automated AMD devices mounted on Future Combat Systems (FCSs) destroyed remotely controlled aerial attack platforms—the kamikazes of the 21st century—as they dove toward maneuver formations. Surface-to-air missiles still streaked skyward to intercept incoming tactical ballistic missiles, but at much higher altitudes and ranges, and with a higher certainty of success than in previous decades.

"The rest was 'reverse engineering,'" explained work group member, Lt. Col. Barry G. Halverson. "We looked at Army Transformation with its objective force concept and studied the literature—articles, briefing transcripts and documents—describing defense reforms likely to be initiated by the new and future administration to determine what essential tasks the objective AMD force will be required to perform. Then we identified the capabilities that the AMD force would need to accomplish those essential tasks. We also took a hard look at the threat that we expect to encounter in the future. After formulating what we thought the AMD force should look like in 2020, we looked back to determine the transition path the AMD force should follow into the future.

"The bottom line is that the AMD Operational and Organizational Concept produces a force tailored to the missions the AMD force is expected to perform rather than to the threat, which changes from day to day, and from year to year," Halverson added. "That's a significant departure from the threat-based methodology of pervious decades."



Completed in June 2001, the AMD Operational and Organizational Concept White Paper ranks as the most visionary document produced by AMD planners since the Forward Area Air Defense Concept White Paper in the mid 1980s. It will transform the AMD force as dramatically but more rapidly than did the post-World War II transition from antiaircraft guns to surface-to-air-missiles.

Significantly, the forward-looking AMD Operational and Organizational Concept contains not a single reference to a specific AMD weapon system, yet it builds on a decade of solid AMD progress. The Gulf War, with its salvos of Scud missiles, awakened military strategists to the changing character of the emerging air threat. On Feb. 25, 1991, an Iraqi Scud missile slammed into a warehouse that had been converted into a temporary barracks in Dhahran, Saudi Arabia, killing 28 soldiers and wounding 99 more. The worst mass casualty event of Operation Desert Storm illustrated that air superiority alone does not provide immunity from attack through the air.

In the last decade of the 20th century, improvements to existing weapon systems—most notably Patriot Advanced Capabilities 2 and 3—battle lab experiments, digitization, and

steady progress in hit-to-kill technologies multiplied the lethality and effectiveness of AMD weapons. Advanced warfighting exercises illuminated more fully the AMD force's contribution to the total force, especially its unique capability to support airspace information superiority operations, including the development of aerial situational awareness data and the fusion of data to create force-wide situational understanding

The U.S. AMD force of the late 20th century clearly dominated the conventional AMD threat it encountered or was likely to encounter in regional contingency operations. The AMD Operational and Organization Work Group was challenged to preserve and extend that dominance from "mud to space" against the full spectrum of anticipated 21st century AMD threats. Another of its goals was to produce an AMD force that could make even more significant contributions to information superiority; airspace control; counter-reconnaissance, surveillance, and target acquisition (RSTA) operations; the expansion and integration of theater AMD; regional missile defense; homeland missile defense; and the exploitation of the joint battlespace for exclusive use by friendly forces, thereby achieving full-spectrum dominance.

Operational Environment

The 21st century operational environment will enable regional powers, and potentially near-peer competitors, to challenge U.S. interests on a broad range of increasingly complex political, economic, and military fronts. Although the United States expects to enjoy a period of relative strategic stability over the next decade, stability and support operations are certain, small-scale contingencies requiring combat operations are probable and major theater wars are still a possibility.

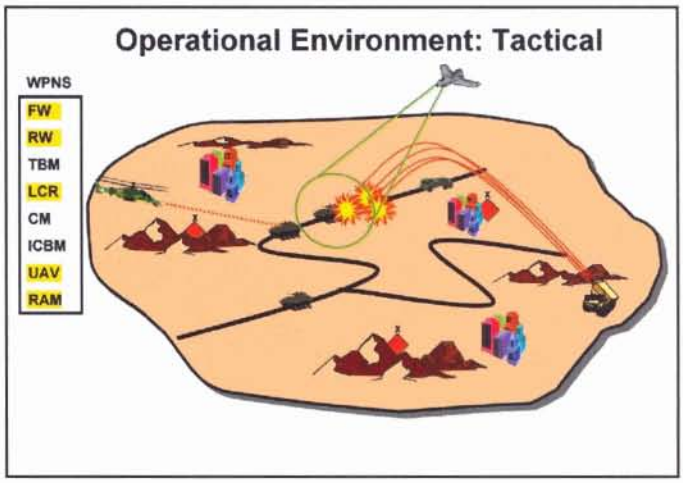
National security experts expect future adversaries to employ asymmetric strategies rather than directly confront U.S. forces. Their chief target will be the United State's perceived center of gravity: its reluctance to sustain mass casualties and their adverse impact on public support for operations in which the nation's interests or principles but not survival is at stake.

Nations that lack the technical sophistication to develop aerospace capabilities independently will rapidly acquire advance air and missile systems and complex components. Tomorrow's air and missile threats will fly farther and faster, and will be harder to see, more accurate and more lethal.

A potential adversary's primary objectives would likely be to disrupt or degrade U.S. deployment operations and to prevent U.S. forces from gaining entry into the theater, accomplishing this through a variety of anti-access means such as ballistic missile and land-attack or anti-ship cruise missiles. Moreover, future adversaries will recognize the importance of multinational partners and may threaten to widen the conflict with aerial attacks to prevent the formation of U.S.-led coalitions. The proliferation of long-range ballistic missiles will make retaliatory strikes against the U.S. homeland an ominous possibility.

Commercially available space-based imagery capabilities will permit future adversaries to maintain surveillance of U.S. forces and divine U.S. intents. In their attempt to deny U.S. forces access to theaters of operations, they will primarily employ ballistic and cruise missiles. Having overcome anti-access tactics, U.S. forces will be subjected to attack by rockets, artillery, and mortars, and an increasingly larger number of precision-guided threat aerial platforms.

Fortunately, a new appreciation of the air and missile threat's enormity and pervasiveness dawned with the new millennium. Members of AMD Operational and Organizational Work Group sensed momentum—strong Army, joint service, Department of Defense and congressional support for AMD programs—on their side. Nevertheless, they confronted major uncertainties.

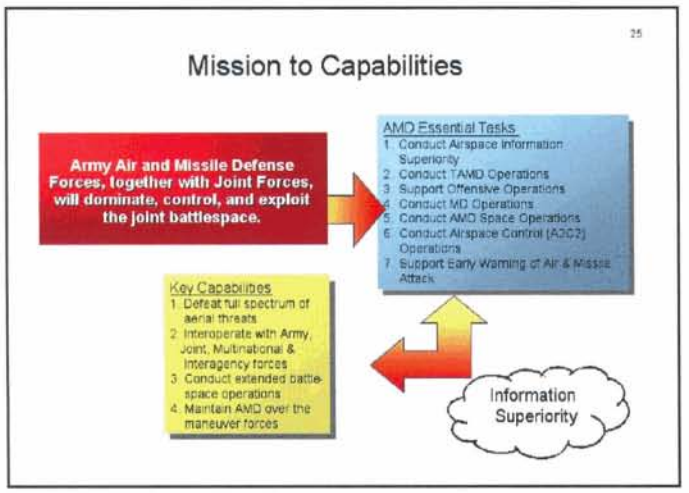


Army Transformation and Department of Defense Transformation promise even more sweeping changes, perhaps even a breakup of the Army's divisions into smaller, faster brigade-sized groups. How would Defense Transformation impact Army and AMD Transformation?

Advanced warfighting exercises linked to Army Transformation had uniformly illustrated a strong requirement for increased joint service and multinational participation in theater air and missile defense. Therefore, the work group could count on strong domestic support for the continued fielding of Patriot Advanced Capabilities-3, the speedy fielding of the Theater High-Altitude Area Defense system, and the continued

exploration of directed-energy technologies that began with the successful demonstration of the Tactical High-Energy Laser against short-range rockets. But the work group worried that multinational support for cooperative theater missile defense systems, such as the Medium Extended Air Defense System, or MEADS, might evaporate despite an aggressive U.S. diplomatic campaign to establish a "global" network of allied and friendly missile defenses.

The United States' proposed missile defense system, meanwhile, remained a topic of intense national and international debate, as did the "militarization" of space. Members of the AMD Operational and Organization Work Group, like military planners around the world, considered the missile defense requirement inescapable and the continued military exploitation of space inevitable. But there were no guarantees that failures of diplomacy, lack of political resolve and fickle public opinion would not stymie efforts to pursue needed technologies.

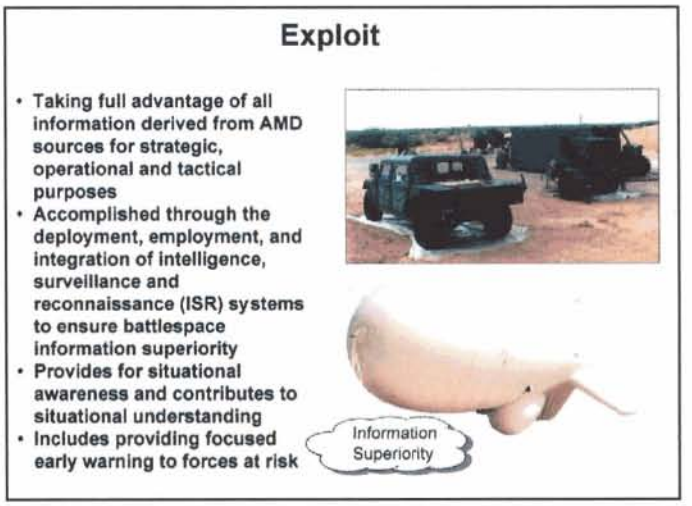


The AMD Operational and Organizational Concept, therefore, is as "elastic" and as "flexible" as the future AMD force it describes. It explains how an AMD "legacy force" and an AMD "interim force" will coexist, then gradually evolve into the AMD "objective force." The AMD Operational and Organizational Concept previews new AMD roles and missions and defines a robust role for AMD forces on future battlefields. It provides an overview of a transformed AMD force organizational architecture and offers a glimpse of future robotic, kinetic-energy weapons, and directed-energy weapons. The AMD Operational and Organizational Concept also envisions the Army's AMD force's participation in missile defense of the U.S. homeland. It is the path America's AMD force will follow into the 21st century.

AMD Force Transformation

The AMD Transformation will take place in consonance with Army Transformation, a more rapid than originally anticipated transition from the Cold War force of the second half of the 20th century to the post-Cold War force of the first part of the 21st century. AMD Transformation will encompass the design and fielding of an interim force and objective force, while simultaneously retaining a trained and ready force—the legacy force.

The current AMD mission—protect the force and selected geopolitical assets from aerial attack, missile attack and surveillance—is based on a Cold War force-protection paradigm. This mission has served the Army well, but has produced an AMD force that employs equipment and organizational structures with system-centric designs structured to accomplish specific tasks. For example, our short-range air defense forces are designed to provide maneuver force protection. They are lightweight, highly mobile, and deployable, but lack the lethality required to dominate the threat. Our high- to medium-altitude air defense forces are highly lethal, but lack sufficient strategic and tactical mobility.



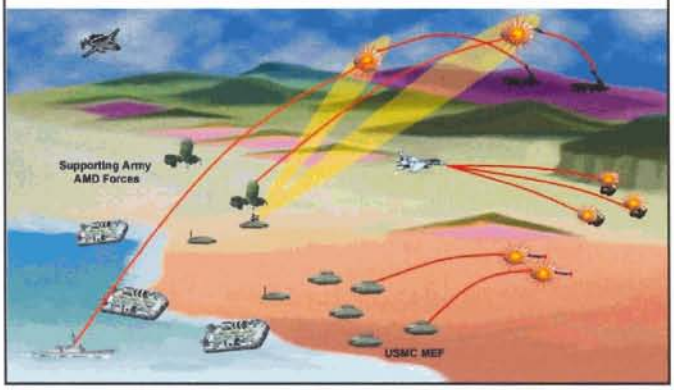
Building on versatility and agility concepts, the Army's AMD Operational and Organizational Concept embodies a single AMD force capable of providing the right support at the right time—seamlessly. This operational concept is expressed in the new AMD mission: Army AMD forces together with joint forces will dominate, control, and exploit the joint battlespace. Implicit in this mission statement is a new operational paradigm that transcends force protection and expands the traditional role of the Army AMD force and its contribution to the overall

warfighting effort.

Dominance, the ability to prevail or predominate over the airspace, is necessary to ensure friendly forces retain freedom of action and opposing forces are rendered incapable of effective interference. The AMD force will achieve dominance by executing counterair, countermissile and counter-RSTA missions at all operational levels.

Control, a critical joint force enabler, is the exercise, regulation and governance of the use of airspace. The AMD force will integrate, synchronize and regulate the Army's use of airspace to enhance force protection measures, minimize the risk of fratricide to airspace users and ground combat units, and increase overall force effectiveness.

Support Forcible Entry Ashore

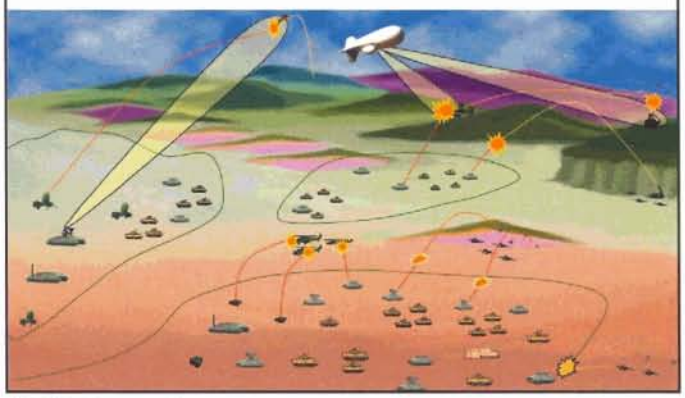


Exploitation, as part of information superiority, ensures that U.S. forces see first, understand first, act first, and finish decisively. To achieve exploitation, the force must take full advantage of all AMD-related information for tactical, operational, and strategic purposes. The AMD force will deploy elevated, multifunctional sensors to "seize the high ground," facilitating communications relays, intelligence gathering and the full range of RSTA and counter-RSTA activities. Leveraging national aerospace sensor information will optimize offensive and defensive operations. Thus will AMD forces provide situational awareness, contribute to situational understanding for commanders at multiple echelons, and provide focused early warning to forces at risk.

The future AMD force will consist of standardized and interoperable shooter, sensor, and command, control, communication, and computer (C4) elements blended into one AMD force, tailored to meet tactical, operational, and strategic missions in support of Army, joint, multinational, and interagency elements. AMD elements will transform from their current system-centric architectural and organizational structures to the objective AMD force structure through the judicious recapitalization of legacy systems, the program modification of developing systems, and the design of objective force characteristics and capabilities into future systems.

The Army will field future AMD capabilities as a family of common sensor, shooter and C4 components. These components will seamlessly integrate essential AMD objective force characteristics and capabilities. They will employ an open, modular architecture that will facilitate exploitation of science and technology advances to expeditiously create on-demand warfighter AMD capabilities.

Enable Maneuver Force Operations



AMD Operations

Future AMD forces will deploy with their equipment in ready-to-fight configurations. Deployment preparations will emphasize mission planning and rehearsals. Pre-deployment and en route training and rehearsals will focus on the operational setting and environment the force will likely encounter in specific theaters of operations. AMD commanders and staffs will make extensive use of simulations and analysis to wargame expected actions, requirements, and available options prior to deployment. AMD forces will plan and rehearse even while en route to their destinations. They will have access to real and near-real-time information on the operational and threat environments through an en route mission planning and rehearsal capability linked to in-theater joint force or other out-of-theater command centers.

AMD sensor, shooter and C4 components will roll on and off tactical and strategic lift transports and initiate operations with no delay. AMD elements will integrate into established Army, joint, multinational, or interagency networks as well as establish their own sensor and shooter network. AMD forces will

collaboratively plan and fully integrate, coordinate, and synchronize their operations with those of other Army, joint, multinational, and interagency forces. They will quickly integrate sensor, shooter, and C4 elements into a resilient, netted and distributed architecture.

In combat, Army AMD forces will destroy or defeat tactical, operational, and strategic threats. Extended-range surveillance, extended-range communications, and improved target identification facilitated by enhanced Army airspace command and control will minimize fratricide risks and permit AMD forces to engage targets at maximum effective ranges. Targets will include rockets, artillery and mortars, unmanned aerial vehicles (UAVs), helicopters, fixed-wing aircraft, tactical air-to-surface missiles, cruise missiles, tactical ballistic missiles, intermediate-range ballistic missiles, sea-launched ballistic missiles, and intercontinental ballistic missiles—the full spectrum of the air and missile threat.

Through the use of organic and non-organic sensors Army AMD forces will support offensive operations by providing targeting information, to appropriate attack operation elements, on time critical hostile launch platforms. In some cases theater-level AMD elements may be allocated attack operations forces to execute strikes against time critical targets.

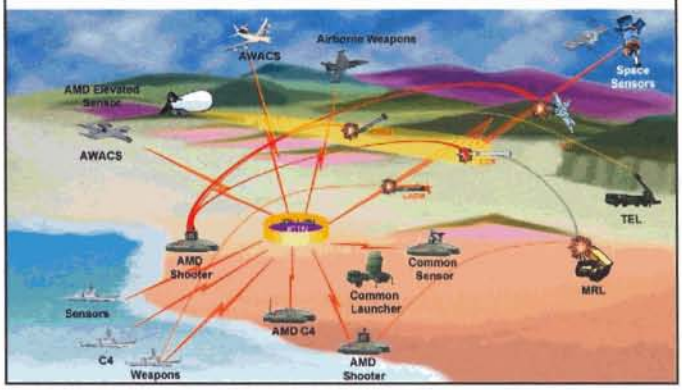
Army AMD forces will conduct defensive operations with Army, joint and multinational forces to destroy enemy aerial threats. They will provide point and area defense, using a combination of sensor, shooter, and C4 platforms to destroy or defeat threats and deny threat aerospace surveillance. AMD forces also will identify the most likely ingress routes of enemy UAVs and other airborne surveillance platforms, and allocate sensor coverage to optimize detection. AMD weapons will be positioned to engage and destroy incoming surveillance platforms at ranges that exceed their data collection or targeting capabilities.

A mix of AMD-directed and kinetic-energy weapons will be employed on manned or robotic vehicles. AMD Automated Protective System appliqués (a self defense mechanism), mounted on Future Combat Systems (FCSs), and operated by maneuver force soldiers, will provide the "final line of defense" against rockets, artillery and mortars. Remotely activated AMD missiles located throughout the battle area will provide area protection against UAVs, rotary wing aircraft, fixed-wing aircraft, and cruise missiles. Dedicated AMD FCSs with extended battlespace and sense and shoot-on-the-move capabilities will provide point and area defense of critical assets and maneuver forces. This combination of AMD force protection will ensure units freedom of action and enable them to maintain force momentum to enhance their survivability. Sensors positioned to extend surveillance will permit early warning of hostile RSTA UAVs and surface targets. All AMD components will keep pace with supported units on and off roads. Longer-range AMD components will provide regional missile defense, protecting our multinational partners (or regions thereof) from ballistic missile or cruise missile attacks that originate within or outside the theater of operations.

These defensive operations will be necessary in situations where an adversary, in an attempt to disrupt our multinational relationships, threatens combatant or noncombatant countries with aerial-delivered munitions including weapons of mass destruction and weapons of mass effect. The Gulf War presented a preview of this type of operation when a U.S. Patriot battalion rapidly deployed from Germany to Israel to help Israeli Patriot batteries in the defense of Israel against Iraqi Scuds. The presence

Protect Forces & Geopolitical Assets

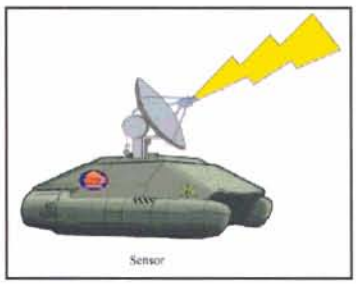
Extended Engagement Operations



of Patriot was widely credited with deterring Israeli retaliatory strikes against Iraq that might have alienated Arab members of the fragile Gulf War coalition. The rotation of Patriot battalions to Southwest Asia and the recent crisis deployment of a Patriot battalion to Turkey offer more examples.

Shooter

In future contingencies, Army and joint AMD forces will deploy into the country requiring assurance. These forces will consist of AMD sensor, shooter and C4 elements integrated with host nation and joint command and control assets. They will provide not only impenetrable active defense but advanced early warning of impending air and missile attacks, giving host countries time to implement life-saving civil defense measures.


Sensor

C4 Component

Airspace Information Superiority Operations

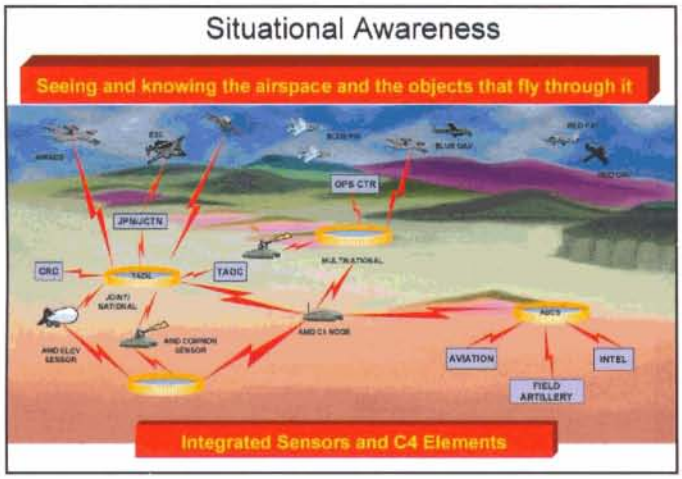
Ever since Patriot missiles erupted from their launchers during Operation Desert Storm and streaked through the nighttime sky over Israel and Tel Aviv to intercept Iraqi Scuds, the fiery collisions of target intercepts have come to symbolize AMD operations. The AMD force's contributions to airspace information superiority operations and Army airspace control operations are less obvious but just as vital.

The AMD force will develop and distribute real-time and near-real-time information on aerial and surface targets to military forces. Fusing information from AMD, joint and multinational ground, elevated, and space-based sensors, it will develop and contribute to the single integrated air picture. The single integrated air picture will provide common, continuous, and unambiguous tracks of all airborne objects within specified surveillance areas.

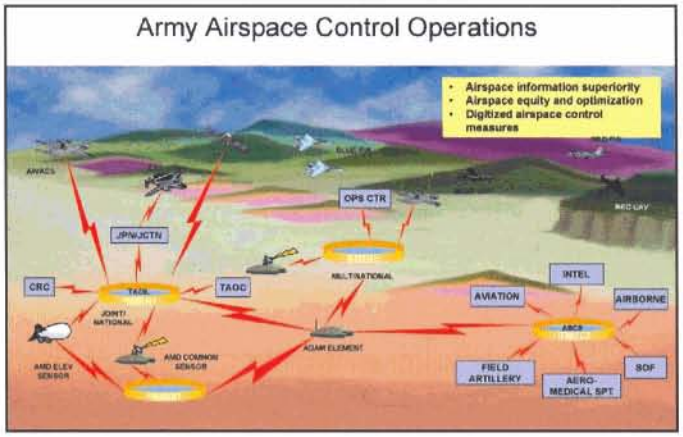
The C4 elements will process the sensor information and disseminate the processed information to appropriate users within the battlespace via communication capabilities inherent in the network-centric architecture. The single integrated air picture, plus positive combat identification, will provide full battlespace awareness and situational understanding.

AMD C4 nodes also will provide timely and accurate alerting of specific forces or areas in danger of attack or observation by air and missile threats. In a missile attack, a warning satellite will detect the launch and pass the data to a theater event system, which will process and transmit the data via a communications satellite to designated AMD C4 elements. The AMD C4 elements will input the data, including projected impact points and time of impact, into the force-wide communications network. Transmitted to civilian authorities, the early warning will give cities time to activate national civil defense measures.

During RSTA attacks, AMD sensors will detect the platform's approach and transmit this data to the AMD C4 elements.



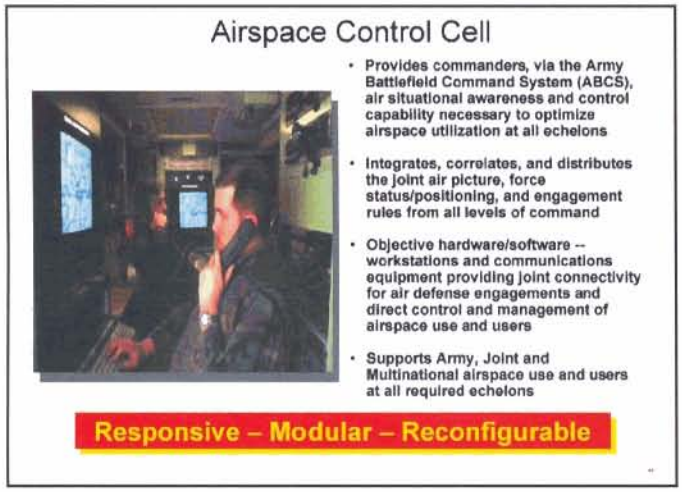
The C4 elements, using artificial intelligence and battle management aids to predict the projected path of the RSTA platform,



will determine those areas that may be subject to observation and will broadcast the warning via the Army-wide communications network.

Army Airspace Control Operations

Controlling the future joint battlespace will go well beyond current efforts to establish corridors and transit routes. Increased demands on the airspace by military and civilian users will require a higher degree of airspace information superiority, control and coordination. AMD ground- and aerial-surveillance capabilities, coupled with netted and distributed C4 equipment located at all echelons, will provide the tools and resources necessary to effectively control the ground commander's airspace.



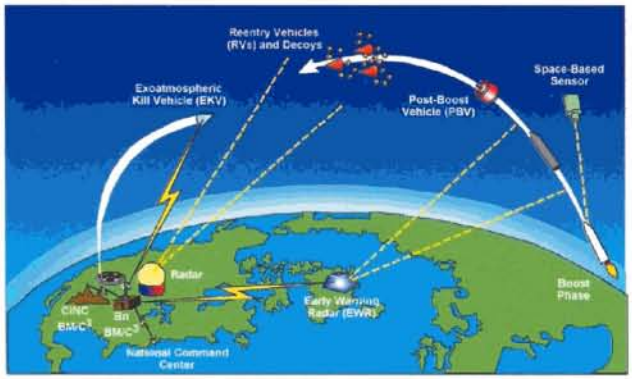
AMD personnel in airspace control cells will lead the effort to identify, coordinate, integrate, and regulate Army airspace needs in coordination with Army, joint and multinational airspace control authorities. Specific tasks to ensure optimal use will include developing and coordinating airspace control plans, identifying and coordinating airspace user requirements, developing airspace control measures, identifying and resolving airspace user conflicts, coordinating the safe transit of friendly RSTA UAVs through friendly airspace, and coordinating airspace usage for immediate, unscheduled missions, such as medical evacuation, counterfire operations, and special operations. Many of the items in the list above identify procedural controls that in the future will evolve into positive controls as a result of enhanced surveillance means, netted and distributed operations, and realization of a single integrated air picture with combat identification allowing situational awareness and understanding of the airspace. With the development of these capabilities positive control of aerial platforms will be written into our tactics, techniques, and procedures in the future. Through these activities, the airspace control

cells will help manage airspace information and maximize joint force effectiveness, ensuring airspace use is synchronized in time, space, and purpose to eliminate fratricide and produce maximum combat power at decisive points.

Protecting the U.S. Homeland

National defense experts expect future adversaries to escalate their efforts to strike directly at the United States as well as U.S. forces overseas. Therefore, homeland security—the protection of the U.S. homeland against conventional and unconventional attack—has become a renewed national defense priority. The

Homeland & Regional Missile Defense



- Army's Been Performing This Role for More Than 10 Years
- We Are the Only Ones Capable of Doing It Now
- Our Capabilities Will Only Get Better

nation's armed forces will protect the continental United States and its protectorates from attack by air- and sea-delivered munitions, cruise and ballistic missiles, information operations, terrorist attacks, and hacker intrusions.

Army AMD forces under the command of Army Space Command/Space and Missile Defense Command will provide the primary homeland defense against ballistic missile attack if the United States decides to deploy a land-based, fixed-site missile defense system. It will consist of shooter, sensor, and Army C4 elements. Sea-, air-, and space-based systems also may be employed as adjunct capabilities. Additionally, Army AMD forces designed for force-projection operations could be deployed to thicken homeland defense.

AMD forces assigned to homeland defense will counter the full spectrum of the air and missile threat. Army AMD forces also will provide complementary defense against cruise missiles and shorter-range ballistic missiles launched from air-, sea- or land-based platforms in the vicinity of U.S. territory.

These Army AMD forces will rely on enhanced sensor and interceptor capabilities to meet the expanded challenge presented by shorter-range cruise missile and tactical ballistic missile threats. AMD systems will likely be employed in tiered defenses to maximize the capabilities of different weapons and sensors. Netted elevated and ground sensors will provide low-altitude search and detection capabilities. Once acquiring the target, the sensors will classify it. Highly lethal interceptors will be capable of engaging on classification, extending the battlespace while reducing the engagement time lines.

Organizational Concept

AMD organizations will be commonly designed and equipped with standard Army conventional items (vehicles and communications equipment) and common, modularized AMD components (shooter, sensor, and C4 systems). They will be knowledge based, with full digitization capabilities to access information links and execute functions and missions expeditiously and accurately. Each organization will be capable of being dynamically tailored to meet METT-TC demands.

The AMD unit of employment will be the nominal equivalent of today's AMD command or brigade. It will be the primary AMD organization in the area of operations. It will link to joint and multinational forces and interagency elements and perform Army-, joint-, and multinational-level planning, integration, coordination, and oversight functions. Liaison teams from the unit of employment will be positioned at designated joint and multinational C2 headquarters to ensure integrated operations throughout the battlespace.

AMD Units of Purpose

Units of Purpose
- Commonly designed
- Equipped with standard Army conventional items and common AMD components
- Capable of being dynamically tailored and supporting all ODSS operations

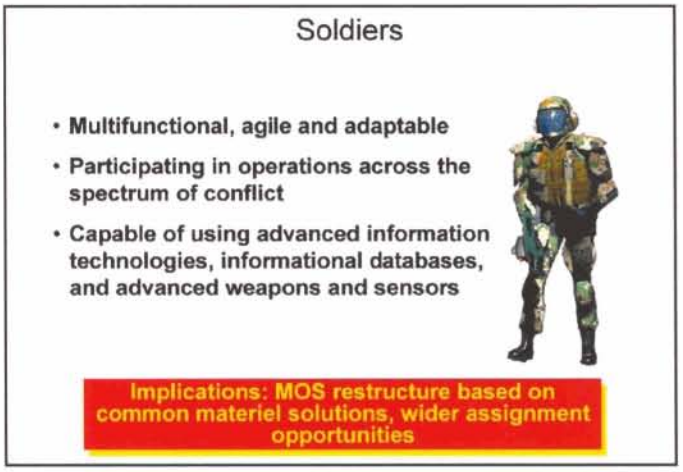
Unit of Employment
- Primary AMD C2 organization in AO
- Performs Army, Joint, and Multinational-level planning, integration, coordination, and oversight

Unit of Action
- Modularly constructed
- Possesses communications capability to interoperate with Army and Joint forces

Unit of Action

The AMD unit of action will be the nominal equivalent of current organizational echelons from platoon to battalion. It will be modularly constructed, regardless of echelon, to enhance mission tailorability and will be capable of supporting all offensive, defensive, stability, and support operations. It will have the communication capabilities to interoperate with supported and supporting Army and joint forces. It will possess both planning and executing capabilities. Battalion and battery equivalents can be expected to be more planning focused, while platoon and lower echelon equivalents will generally serve as mission executors.

A battalion-equivalent unit of action will assign missions, task organize elements, coordinate operations, and logistically support subordinate units of action. It will be self-sustaining for a limited period and will operationally and logistically be able to "reach" back or laterally. Its headquarters will generally contain the command group and staff cells to fulfill traditional administrative, intelligence, operations, and logistics functions. It will also contain an organic airspace control cell that will be positioned at supported force headquarters.



Lower-echelon units of action will have varying degrees of capability, dependent upon size and composition. A battery-level unit will organize and coordinate operations of its subordinates, though generally in concert with other forces or agencies. It will likely require sustainment assistance from its parent or supported unit.

Units of action will contain the requisite shooter, sensor, and C4 elements (vice systems) to accomplish a particular mission. These organizations will break the traditional paradigm of fixed-size, direct-ownership, and habitual association between organic sensor, shooter and C4 systems.

DTLOMS Implications

Doctrine, training, leader development, organizations, materiel and soldiers (DTLOMS) implications are critical to AMD force operational and organizational development and essential to operational and organizational change management.

Implementing the AMD Operational and Organizational Concept will require dramatic changes in joint and Army doctrine to reflect increasing interdependence of operations, the expanded mission spectrum, the evolution of organizations, and advances in information and weapon technologies. New doctrine must be developed for regional missile defense and homeland defense.

Training will focus on the operational setting and environment soldiers are likely to encounter in specific theaters of operations. Training will generally be conducted while soldiers and units are geographically separated but digitally connected through simulators and simulations. Virtual and constructive simulations will play an important role in training our AMD forces. Simulators featuring interactive, theater-relevant threat scenarios will provide realistic individual and collective training before deployment, while en route to the theater and after arrival.

Dynamic leadership will remain the essential constant of combat power and will be indispensable in successfully planning and executing operations against the full spectrum of air and missile threats. Army AMD organizations will undergo radical transformation to adequately support future operations. These changes will affect command and control relationships, force structure, organizational composition, and support considerations.

Smaller and lighter are deployment imperatives for AMD components and forces. Acquisition reform will help us obtain the materiel improvements and new technologies we need to reduce deployment requirements, enhance lethality and lower cost per kill. Materiel solutions might include FCS AMD pods, directed- and kinetic-energy weapons, and common shooter, sensor, and C4 elements as well as embedded prognostic and diagnostic capabilities, robotics and automated protective systems.

Highly competent AMD soldiers will need to become more multifunctional, flexible and adaptable, and capable of participating in the full-spectrum of combat operations in the future. They must develop the competencies required to execute low-intensity, non-combat operations, while maintaining combat skills required to execute high-intensity AMD operations. Military occupational specialties will be restructured based on common materiel solutions.

Summary

During a time when most Europeans thought of Africa as the "Dark Continent," a Zulu chieftain name Chaka armed his tribe with a weapon that revolutionized tribal warfare on the Central African Plain. Called an assegai, it could be used as a short throwing spear or a short stabbing sword, much like the Roman blade Julius Caesar's legionnaires carried into battle. Chaka persuaded his reluctant warriors to abandon their traditional long throwing spears in favor of the new weapon—a weapon perfectly suited to Chaka's newly conceived mass and shock concept of battle.

The Zulu chieftain organized his warriors, accustomed to the individual style of combat characteristic of conventional tribal warfare, into highly disciplined regiments. Chaka forced his warriors to discard their sandals and tested the toughness of their feet by forcing them to dance on cactus. With its warriors beating cadence on their shields, a Zulu regiment could move farther and faster than European cavalry. Formed in crescent formations—the "head of the water buffalo" in the center and its "horns" on the flanks—the Zulu regiments swept all opposition off the African plains during a few, brief, bloody decades remembered in the Bantu tongue as the Mfecane, the "crushing."

Predating the more often cited German World War II model by a century, the Zulu regiment is an early example of how a transformed force, equipped with the right weapons, organization, training, doctrine, and tough soldiers can dominate less innovative and less adaptable adversaries. Today, a similar transformation, carried out on a much grander scale, is restructuring and re-equipping the U.S. Army and its components, including its AMD force, to dominate on future battlefields.

The AMD Operational and Organizational Concept's integration of all AMD capabilities into a single, coherent entity represents a quantum lead in AMD force application. Tomorrow's AMD force requires this merging of integrated capabilities to provide an impenetrable air and missile defense shield for America's forward-deployed forces, its multinational partners, and its homeland from air and missile attacks and observation. The AMD Transformation outlined in the AMD Operational and Organizational Concept will enable us to fully capitalize on leap-ahead technologies, retain our current warfighting advantages, and deny similar advantages to potential enemies across the full spectrum of conflict.

Air and Missile Defense Operational and Organizational Work Group
Fort Bliss, Texas
June 2001

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U.S. Army Air Defense Artillery School

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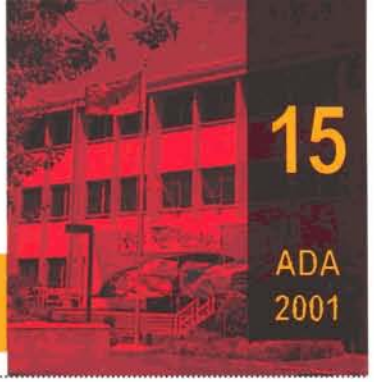
ADA School Transformation

By Brigadier General Howard B. Bromberg



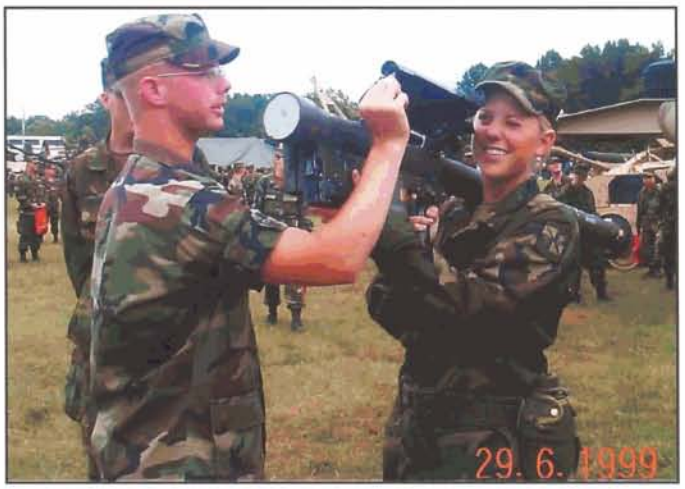
Building the Training Base for the Air and Missile Defense Force of the 21st Century

Army Transformation is more than technology. It's also about training soldiers and growing leaders who are agile, versatile, and adaptive. One of the most essential steps in Army Transformation is the transformation of the institution—the Service schools and installations that produce doctrine, generate capabilities requirements, develop leaders and train soldiers. Successful Service/proponent school transformation builds the foundation for successful transformation of combat and combat-support organizations that will ensure our victory on future battle fields.

The U.S. Army Air Defense Artillery (ADA) School Transformation is proceeding in consonance with Army Transformation, Army Training and Doctrine Command (TRADOC) Transformation, and Air and Missile Defense (AMD) Transformation. The ADA School Transformation will tremendously enhance organizational effectiveness, enabling us to equip the emerging AMD force with workable doctrine, effective weapon systems, highly competent leaders and superbly trained soldiers. For our civilian employees, it will produce a reenergized work environment filled with challenging and rewarding career opportunities. Together, we will become part of a learning organization that leads and manages change rather than reacting to it.

Army Transformation got underway in 1999 with the creation of Initial Combat Brigade Teams, the preliminary stage in the creation of a coexisting Legacy and Interim Force that will evolve into an Objective Force. The ADA School Transformation, like Army Transformation, incorporates a preliminary stage—the establishment of a transitional school model—which will evolve into the objective ADA School model.

The ADA School transitional model, which is already partially operable, is a good first step in our transformation journey. The transitional model postures the ADA School for its progression through the various stages of TRADOC Transformation and allows us to move forward deliberately with minimal risk to existing mission accomplishment .



Background

The ADA School started the transformation process early by initiating projects in strategic planning and doctrine and training development. This head start has made the ADA School a lead pilot program for TRADOC Transformation.

Over the past year, we created an embryonic strategic planning capability to link all our initiatives to the Branch and Post vision and to enhance our continuous improvement process. This enabled us to successfully develop a classroom modernization and training facility upgrade plan that was integrated into the Installation Master Plan.

We also transformed our Directorate of Tactics, Training and Doctrine into the Directorate of Training and Doctrine. We based the transformation on an analysis of functions and the subsequent realignment of those functions into an organizational structure best suited to accomplish the mission. The transformed Directorate of Training and Doctrine is aligned with Army Training XXI strategies. The directorate now has three instead of five divisions. This organizational flattening allowed us to move resources from the management tier to action-officer level. Enhanced organizational effectiveness enables us to accomplish more tasks and functions with the same amount of resources.

the mission:
no threat
gets through.

PAC-3

THAAD

NMD-Payload Launch Vehicle

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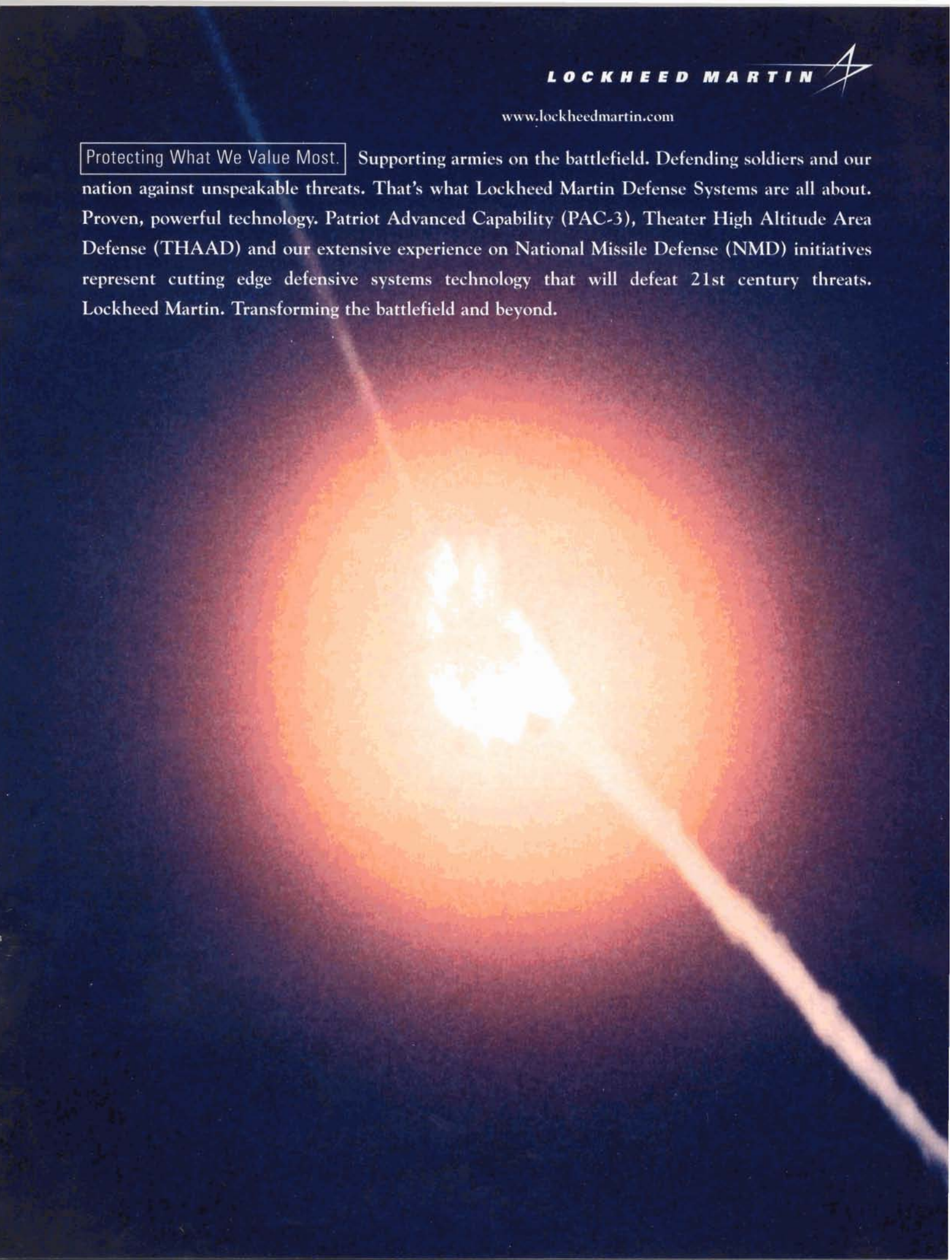
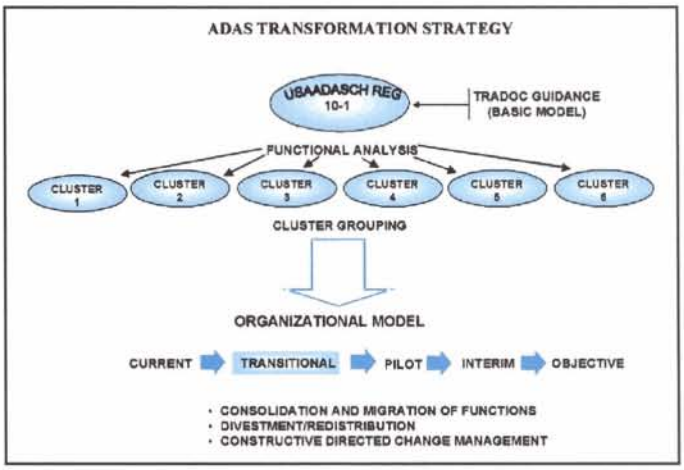


Over the past year we have worked closely with three TRADOC transformation panels: the Futures Across Doctrine, Training, Leader Development; Organizations, Materiel and Soldiers (DTLOMS) Panel; the Leader Training Center Panel; and the Initial Entry Training and Branch School Panel. With their assistance, we developed operational and organizational concepts, draft tables of distribution and allowances, and identified resource requirements to implement a Center Pilot at Fort Bliss. The staff developed operational and organizational concepts for each TRADOC panel. We are now working on an overarching operational and organizational concept that will outline the eventual transformation of the ADA School into a working prototype of the TRADOC Transformation model, which consists of a Futures Development Integration Center (FDIC), Leader Training Center, Branch School, Quality Assurance Office and Strategic Planning Office.

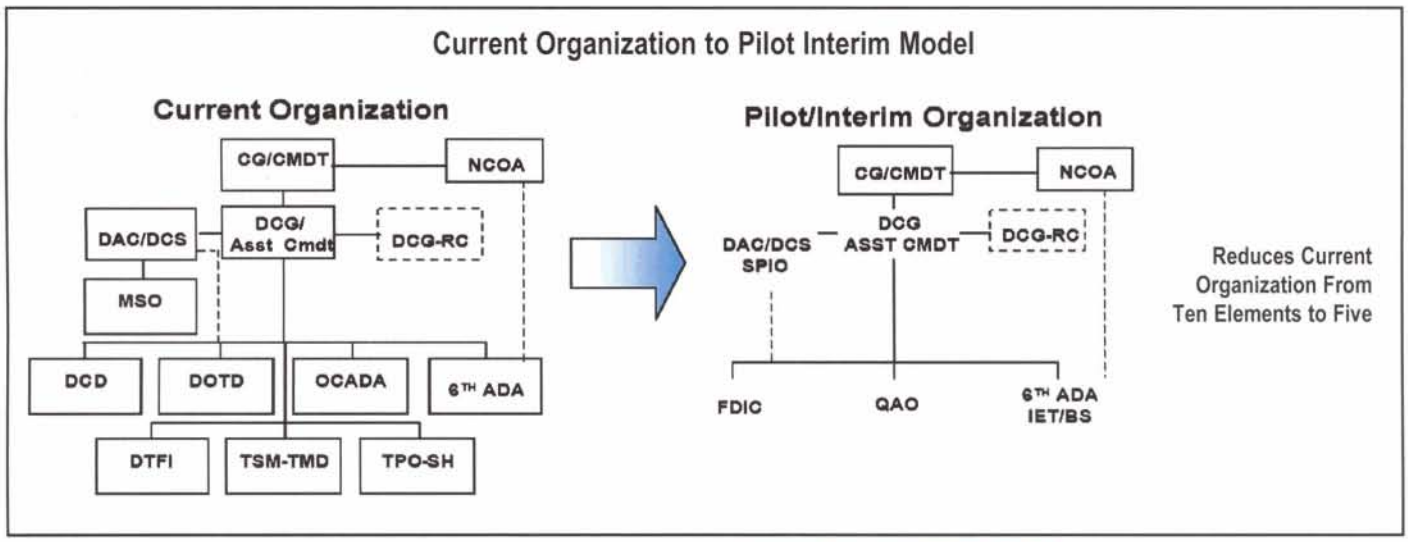
The first step was to identify all functions currently being performed and cluster all like functions together. Using functions resident in each cluster, we developed an organizational design based on the model provided by the TRADOC Transformation Team. The transformation strategy, depicted top right, shows how we plan to implement the transition from our current structure to the pilot/interim structure outlined in the TRADOC Transformation concept.



Futures Development and Integration Center

Our initial cut at developing a Futures Development and Integration Center (FDIC) had a Futures Integration Directorate, Production Services Division, Human and Resource Management Division, and Information and Technical Service Division. Core matrix teams were to spearhead center projects. We envisioned these core matrix teams as two-person teams assigned to each air and missile defense system. These two-person teams will follow each system through every stage of development (life-cycle ownership). As a system progresses through a series of milestones, the core matrix teams will grow and shrink, temporarily enlisting other FDIC specialists to garner the expertise needed to complete required tasks. Under this FDIC concept, there will be three functional areas: Futures Exploitation, Developments Integration, and Functional Support.

The FDIC's Futures Exploitation Division will be responsible for concepts, science and technology, and experimentation. The Developments Integration Division will be responsible for



all requirements documents, doctrine and training development, the organizational designs and force structure determination process, training analysis, and the TAA process. The Functional Support division will be responsible for threat, analysis, and testing and evaluation. The Production Services Division will be the "factory" of the FDIC. It will serve as a centralized physical production facility, providing editorial and graphics support to the core matrix teams and producing courseware for distance learning and institutional training.

Concept Review

We evaluated the organizational design and concept to ensure that they were sound and that the implementation of our transformational concept would result in increased organizational effectiveness.

We also reviewed the proposed organization's affordability. We determined we could afford to establish—actually reestablish—a Quality Assurance Office similar in functions to the old Directorate of Evaluation and Standardization. Additionally, we moved future concept development for the FDIC into a focused Integrated Process Team. This team is currently working to develop options for the integration of combat developments with training and doctrine developments.

In our assessment of the Leader Training Center, we determined that the title Leader Development Center would be more descriptive of its function. We also considered a proposal to realign Noncommissioned Officer Education Systems (NCOES) courses from a consolidated NCO Academy environment into two separate areas: Initial Entry Training and the Leader Development Center. There appeared to be merit in developing a "university environment" for Officer Education System, Warrant Officer Education System and Noncommissioned Officer Education System students. But we determined the consolidation concept required a much more detailed analysis to discern second- and third-order effects of completely changing a proven and often emulated training strategy for the Army Noncommissioned Officer Corps. Based on this concern, we decided to leave the NCO Academy as a stand-alone organization, but to establish a stronger relationship between the academy and the training brigade, particularly in support and administration, to include the conducting of shared training between NCOES and OES beginning this year.

In our evaluation of the Initial Entry Training/Branch School proposed organization, we determined that maintaining a training brigade is essential to ensure our soldiers receive the most effective training possible. To make the training brigade organization more effective, all instructional requirements will be placed under a single battalion commander, and a support battalion will be designated to house and maintain all training-base equipment. To maintain a proper Initial Entry Training environment for our Advanced Individual Training soldiers, we will keep our Advanced Individual Training battalion intact.

We decided to consolidate the Leader Development Center and Initial Entry Training/Branch School under our existing training brigade, the 6th ADA Brigade. Aligning both organizations under a single brigade commander will provide unity of command in the areas of institutional training and leader development. It also will ensure that we have "green tab" leaders training our future platoon leaders and battery commanders.

The Next Step—The Year Ahead??

To properly posture ourselves for the transformation, the school's Deputy Assistant Commandant formed a matrix team to develop a transitional organization concept. The matrix team developed a modular transition concept that identified organizational changes that could be made now within existing resource

constraints as well as changes that required additional study to determine feasibility of implementation over a phased time line. The team identified the following proposed transitional initiatives:

• Transition the offices of the ADA School's Deputy Assistant Commandant and Deputy Chief of Staff to the Strategic Planning and Integration Office (SPIO). The integrated office would become the Deputy Assistant Commandant/Deputy Chief of Staff for Strategic Planning and Integration, creating a centralized, integrated strategic planning capability for Fort Bliss within the ADA School. This is essential to grow Fort Bliss and all assigned units into a true AMD center of excellence.

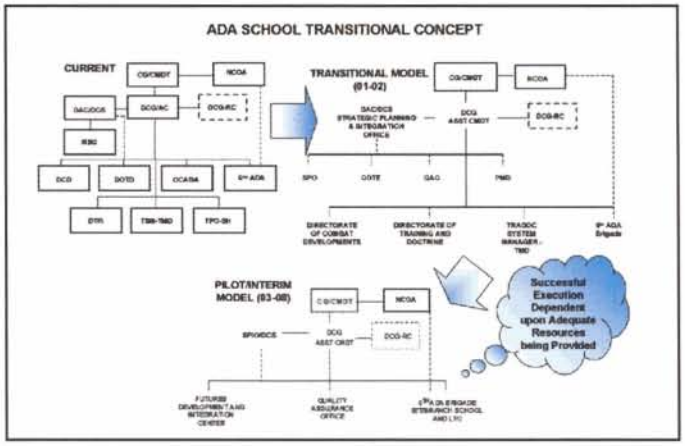
• Leverage the success of the Directorate of Tactics, Training and Doctrine to Directorate of Training and Doctrine transformation by exploring possible organizational effectiveness enhancements through consolidation of all new system developments into the Directorate of Combat Developments.

• Transition the Management Support Office into the Program Management Division, realigning Classroom XXI and distance-learning functions to the Directorate of Training and Doctrine while transferring remaining functions to the SPIO.

• Continue efforts to resource organic strategic planning and organizational development capabilities within the SPIO.

• Make the establishment of a Quality Assurance Office to provide an organic feedback mechanism for the Chief of Branch and ADA School a top transformation priority.

• Complete additional analysis and studies to identify which Leader Development Center functions can be implemented on a phased timeline.



Transition Concept

The figure above depicts the roll-up of previously discussed initiatives. While this transformation model does not provide the full functionality of the pilot, it represents a critical step in the evolution toward the model and reflects change management within prudent risk levels.

The figure above also acknowledges the fundamental resource considerations that link our end-state vision with available ways and means. As additional resources become available, the ADA School will be postured to take full advantage of them as we grow toward the full pilot.

Summary

Transition is essential for us to achieve the developmental and training capabilities required by the Objective Force. The transitional model that we have developed not only postures us to move through the various phases of TRADCOC transformation but allows us to move forward deliberately with prudent risk to existing core mission accomplishment.

ADA School leaders are fully engaged and working daily with members of the transformation team to make the transformation as smooth as possible. We will continue to regularly furnish transformation updates to our soldiers and civilians. We welcome your input and ask that you please direct questions or comments about the proposed ADA School Transformation to:

Col. Alan D. Landry, DAC/DCS (SPIO)

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Email:	LandryA@bliss.army.mil

Look for information on the progress of ADA School Transformation at: http://147.71.210.21/ada/ADASTransition.htm.

We are moving out on ADA School Transformation. Working together as a team in a restructured and realigned learning organization, we will continue to produce superbly trained air and missile defense soldiers and leaders with the strength, the confidence, and the will to fight and win anywhere, anytime.

Brigadier General Howard B. Bromberg was the Deputy Commanding General, Fort Bliss, Texas, and the Deputy Assistant Commandant of the U.S. Army Air Defense Artillery School at the time this article was written. He was promoted August 9, 2001, and is now Commander of the 32nd Army Air and Missile Defense Command, Fort Bliss, Texas.

Air Defense Artillery's Future Starts at Reveille

Air Defense Artillery's Command Sergeant Major Lists Top 10 NCO New Stories

By Command Sergeant Major Mark C. Avery

It's sometimes said that Americans are oblivious to the past, unmindful of the present, and obsessed by the future. Probably that's why articles about future weapon systems and projected major changes in national military strategy make banner headlines while news about developments that profoundly affect the way the military operates today receive so little notice. However, ADA NCOs know the future of Air Defense Artillery starts tomorrow morning at reveille—not 20 or 25 years from now.

Content to leave "over-the-horizon" eventualities to generals, NCOs tend to focus on meeting the challenges they will confront during the next training cycle. Therefore, I've compiled the following capsule reports on recent ADA developments that, from an ADA NCO's perspective, should have been the past year's top news stories.

Reports of Declining Unit Readiness Turn Out to be Exaggerations

In saying ADA NCOs tend to be absorbed by the present, I don't mean to imply they never worry about the future. NCOs who think the Army's rush into the new millennium and it's focus on force transformation has short-changed training and compromised unit readiness worry a lot about the future.

It's been a struggle at times, but the truth is that we've managed to maintain high training standards and high states of readiness despite budgets cuts, constant deployments and recruiting and retention shortfalls. Peacekeeping missions and crisis deployments have not destroyed unit readiness or sapped soldier morale. News articles about the Army downgrading the readiness status of entire divisions invariably turn out to be about units that have just returned from peacekeeping missions. These units quickly return to full readiness status as they resume their normal training cycle.

American soldiers like to deploy when they are convinced the mission is worthwhile. This is why they joined the Army. And Patriot task forces that participate in Southwest Asia rotations are performing their wartime mission, the best possible training. Peacekeeping missions and Southwest Asia rotations, if not too frequent, build soldier morale and unit cohesion. When I visit ADA units, I see highly trained and highly motivated ADA soldiers and ADA units fully capable of accomplishing their mission. Could we keep up present standards if the current operating tempo continue to erode the training base? Perhaps not, but our senior military and civilian leaders share our concern and our commitment. A return to basics—a renewed emphasis on the training imperative—is built into the Army Transformation.

Patriot Fill Progresses

During last year's Air Defense Functional Area Assessment, the Army Vice Chief of Staff pledged to fill Patriot authorizations in Army Forces Command (FORSCOM) units to 100 percent. The Air Defense Artillery School began tracking the progress of this fill in November 2000. At that time, the percentage of authorizations filled in FORSCOM Patriot units on Fort Bliss was at 85.7 percent for 14E and 88.7 percent for 14T. As of March 2001, these figures stood at 86.8 percent for 14E and 95.8 percent for 14T. The major reason 14E fills lag behind 14T is that the 14E Patriot Fire Control Enhanced Operator Maintenance Course lasts 26 weeks. The bottom line is that the promise to fill Patriot units to 100 percent is being kept.

ADA Battalions Get Avenger Master Gunners

The new Avenger Master Gunner Course, scheduled to start in fiscal year 2002, will train Avenger staff sergeants and sergeants first class to serve as Avenger master trainers at the battalion level. The course will provide ADA battalions, which already have a Bradley Linebacker Master Gunner, an Avenger Master Gunner.

14J Positions Revert to 14R/14S

Restructuring 14J, Air Defense C4I Enhanced Operator/Maintainer, positions (S-3, Operations) in short-range air defense

battalions to Bradley Linebacker or Avenger will provide S-3 shops senior trainers for the associated weapon systems. These positions were originally 14R/14S positions, but had been converted into 14J positions, which left an Avenger/Linebacker senior trainer gap at battalion level.

ADA Explores Possibility of Placing Sergeants Major in Battalion S-3 Shops

Levels of responsibility clearly justify replacing ADA master sergeants in Short-Range Air Defense (SHORAD) battalion S-3 shops with ADA sergeants major. However, Army wide restrictions on increasing the number of sergeants major preclude an easy solution. One option being considered is to transfer sergeants major from high- to medium-altitude air defense (HIMAD) brigade S-2 shops to SHORAD battalion S-3 shops and recode the brigade S-2 positions as master sergeants slots. The drawback is that this solution would not afford enough positions to fill all SHORAD battalion S-3 positions.

14J Positions to be Added to Fill Battery Command Posts

A current proposal would increase 14J authorizations by 100 soldiers. These soldiers will be employed in the new Battery Command Posts. They will increase the Patriot's force capability to participate in the Joint Data Net and, eventually, the Joint Planning Net through the Link 16 Terminal. This will provide battery commanders increased situational awareness, enabling them to better perform air and missile defense planning. The fill will also increase the Patriot battery's ability to fight in situations in which its battalion headquarters is absent or not available. For example, joint interoperability across theaters of operation would not be degraded when a Patriot battery separated from its parent battalion's Information and Coordination Control Central goes to autonomous mode.

Patriot Senior Tactical Control NCO Course Produces Table IV Trainers

The Patriot Senior Tactical Control NCO Course prepares 14E master sergeants and sergeants first class at battalion and brigade levels for duties as Patriot gunner Table IV trainers. After completing the course, these senior NCOs will train the lieutenants and junior NCOs destined to become Patriot Tactical Control Officers, Tactical Control Assistants, Tactical Directors and Tactical Director Assistants.

Sergeants first class and master sergeants who have completed the 26-week 14E10 or 24T10 course and are currently assigned to positions in either the battalion or brigade EMMO team are eligible to attend the new course. Since a written TSOP test is administered on the first day of the course, NCOs must be thoroughly familiar with unclassified/classified FORSCOM Brigade Tactical SOP.

Internet Becomes Useful Tool for ADA NCOs

We are just beginning to tap the tremendous potential of the Internet, and the possibilities seem limitless. For example, ADA NCOs know some Skill Level 1 Critical Tasks are to be trained at the ADA School while others are to be trained at the unit, but I recently discovered that many did not know actually which tasks are assigned to the schoolhouse and which are delegated to units. The solution was to post tasks that need to be trained at the unit on the Internet. Today, ADA NCOs can find a list of MOS 14E, 14J, 14M, 14R, 14S and 14T Skill Level 1 Critical Tasks to be trained at unit level on the ADA School's Digital Training Access Center Website (http://147.71.210.21/dottd/info/tasklist.htm).

You can also find the Career Management Field 14 Professional Development Career Map on the web. The map is a guideline for career progression in Air Defense Artillery. It provides career guidance that you can use to chart your own career and those of soldiers whom you mentor.

Fort Bliss Exceeds Retention Goals

The Army's recruiting and retention woes have been well-publicized; yet since the beginning of fiscal year 2001 the U.S. Army Air Defense Artillery Center and Fort Bliss has exceeded its retention goals for initial term soldiers (111 percent), mid-career soldiers (124 percent) and reserve component soldiers (125 percent). The Army, not just Air Defense Artillery, has gotten a handle on the recruiting and retention problem. The Army has been promising

soldiers better pay, improved housing and enhanced lifestyles since the creation of the all-volunteer Army three decades ago, and it's finally getting the political backing and resources it needs to make good on the promises.

News Media Gets It (Mostly) Right About Air and Missile Defense

In decades past, it was difficult to complain about the accuracy of news stories concerning air and missile defense because there were no news stories about air and missile defense. That all changed with the Gulf War. Today, National Missile Defense and Theater Air and Missile Defense are hot topics and most of the coverage is overwhelmingly positive. Air Defense Artillery is getting the kind of press coverage that the Marine Corps used to build its unique image, and like the Marines, we can capitalize on it to build a stronger Air Defense Artillery.

Network news anchors like to deliver news commentaries or analysis that permit them to broadcast their editorial opinion about current events. From my perspective, the outlook for Air Defense Artillery is overwhelmingly bright. Soldiers who have pinned on the cross cannon and missile insignia have made a wise investment in the future. Air and missile defense is definitely a growth industry, and I envy soldiers who have most of their career ahead of them rather than behind them. Too bad we can't go public and issue stock.

First to Fire!

Command Sergeant Major Mark C. Avery
is command sergeant major of the U.S. Army Air Defense Artillery Center and Fort Bliss, Texas.

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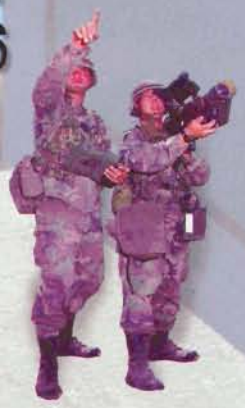

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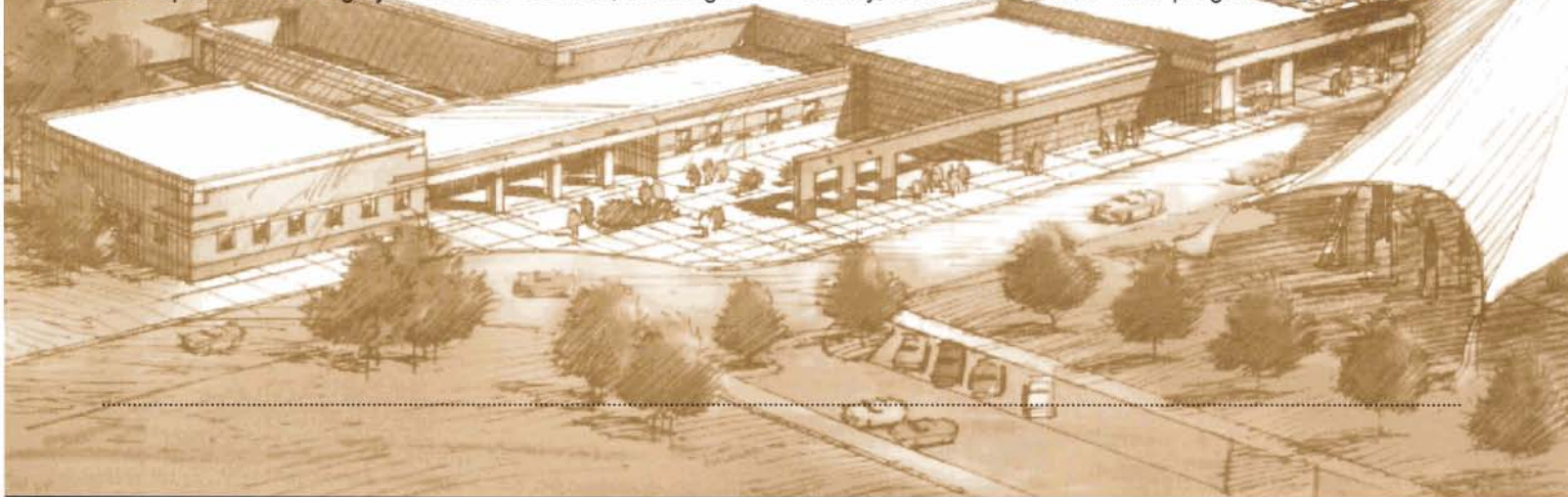
BE A PART OF HISTORY IN THE MAKING

Momentum to centralize Fort Bliss museums accelerated this summer when museum staff members began moving from their widely scattered facilities into the new museum building, the former Post Exchange facility. The new museum facility provides a seven-fold increase in exhibit space, centralized museum operations, an auditorium, research resources, and an excellent location to encourage public access. It promises to be an exciting focal point for cultural and historical interests for Fort Bliss and El Paso. This world-class museum facility will be a significant tourist attraction and the ultimate tribute to men and women and technological advancements linked to national resolve that have helped to forge a mighty shield of freedom for our country and our allies around the world. The former museum facilities were difficult for visitors to locate, and inadequate for the protection and exhibition of historical artifacts. The new museum facility is a centralized operation in a highly accessible location, allowing for the proper care and public exhibition of many large artifacts currently hidden in storage.

However, we need your support and contributions to raise the $5 million still required to renovate the new facility. The fund raising mission has been entrusted to the Air Defense Artillery Association and is under way. Facility renovations will be phased as funding is available, allowing the earliest possible public use, while continuing the development of state-of-the-art exhibits and eventual use of the entire facility.

From its establishment as the Post Opposite El Paso in 1849 to its role as the center of U.S. and Allied air defense training and technology, Fort Bliss has grown from a dusty frontier outpost to a major international training center. Fort Bliss has always been a vital part of the history and culture of the El Paso area. Thus, the museum provides an important link between the local history of the U.S. Army and El Paso del Norte. In the new facility, museum exhibits and programs will cover the



founding and evolution of the post, the life of the U.S. Army soldier on the frontier, local personalities and overviews of major branches or units that have been or are located on post. Also to be featured will be the histories of Biggs Army Airfield, including its time as a Strategic Air Command base, and William Beaumont Army Medical Center.

The new facility will allow the Air Defense Artillery Museum to exhibit the branch history and evolution of technology, encompassing rare early antiaircraft weapons and equipment and the history of wartime ADA actions. Numerous large antiaircraft weapons and equipment, presently in storage, will be exhibited in the context of their use by American and Allied soldiers. Also, as today's ADA weapons and equipment will be tomorrow's history, the ADA museum will grow as the branch moves into the 21st century. Museum exhibits and programs will feature the rich heritage of the branch and important Army values to explain why ADA soldiers are indeed the ***First to Fire.***

The completion of the Fort Bliss Museum and Study Center depends on your donation. Your tax-deductible gift will be greatly appreciated and given its due recognition, unless anonymity is requested.

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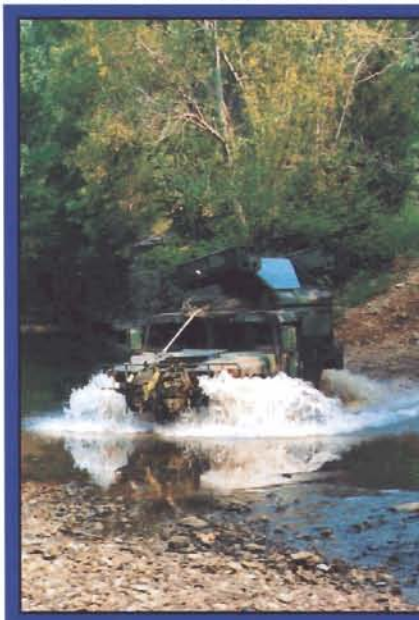

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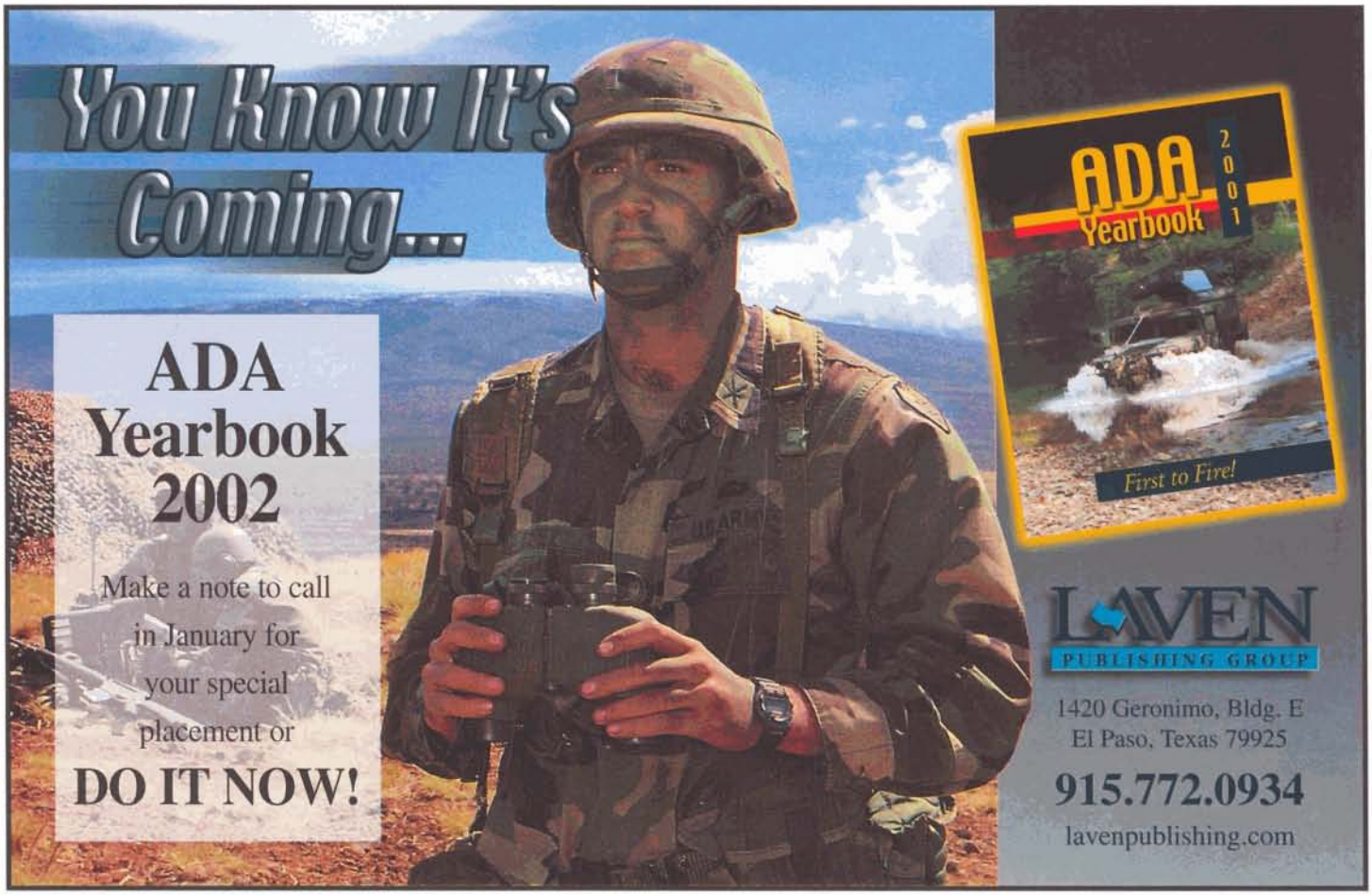

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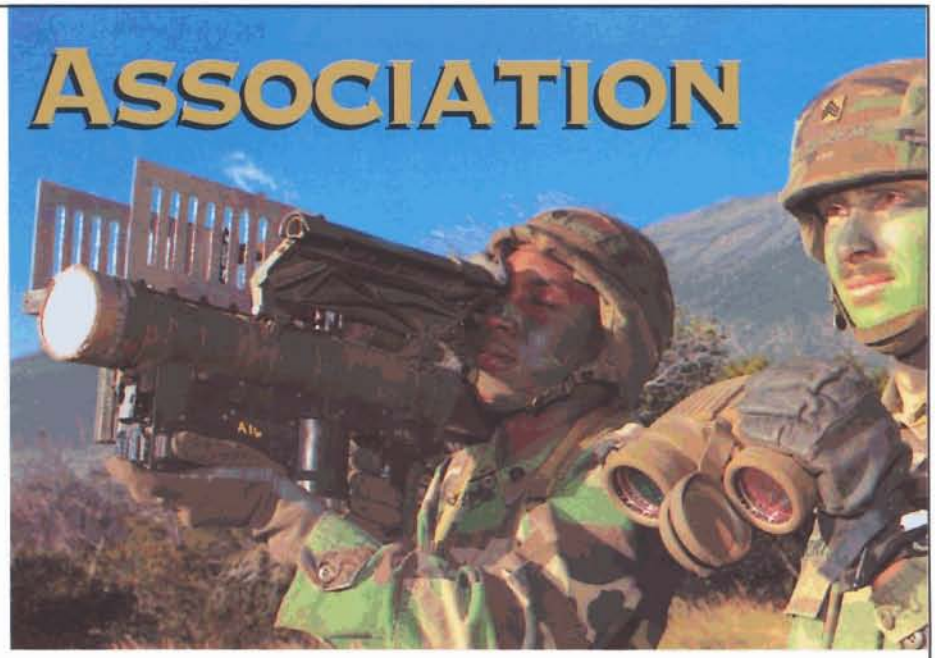

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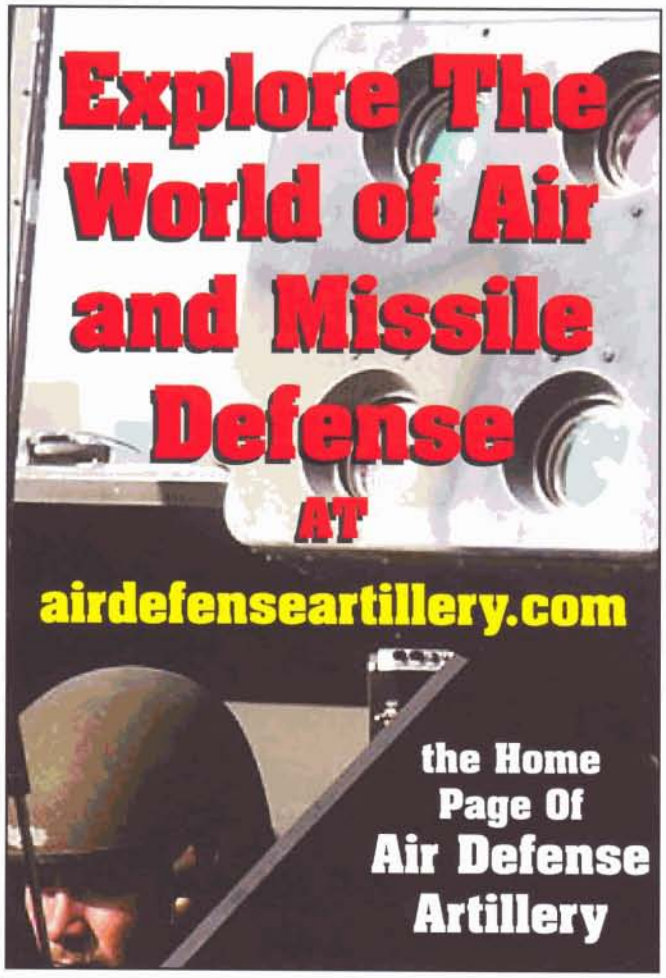
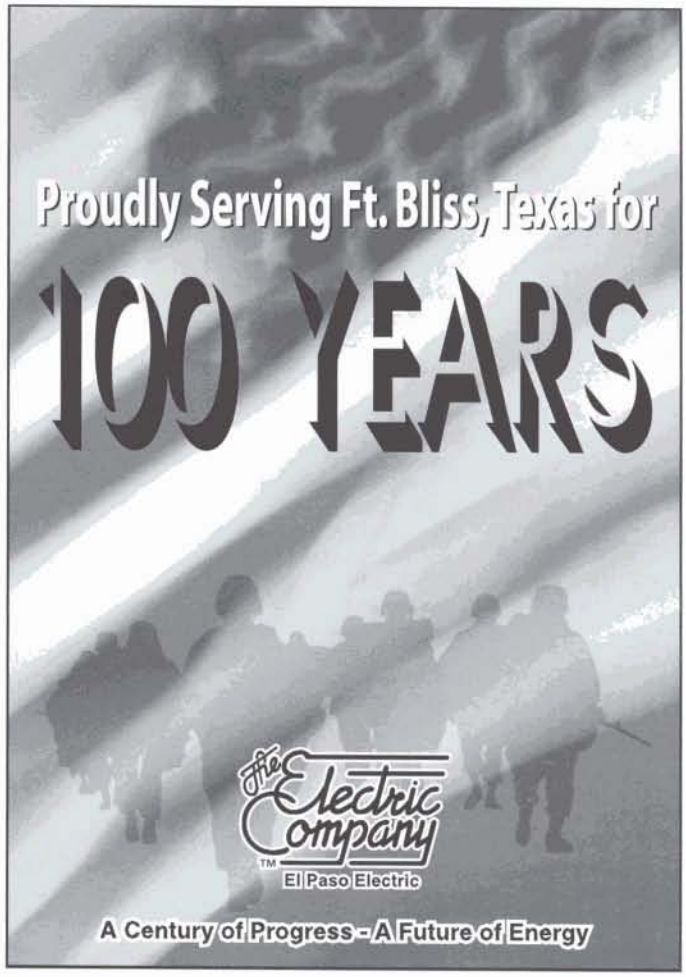
The goals of the Association are to support Air Defense Artillery soldiers and retirees, to foster a spirit of unity and esprit de corps among members of the Branch and to provide both moral and financial support to the Air Defense Artillery Museum and other programs of the Fort Bliss Museums Division. The Association has more than 7,345 individual life members, 80 corporate members, four business partners and six chapters. Lifetime membership in the Association is offered to anyone committed to Air Defense Artillery.

For more information on the Air Defense Artillery Association, call (915) 568-2711 or write to the ADA Association at P. O. Box 6101, Fort Bliss, Texas 79906. You may contact the ADA Association by e-mail at fanninge@bliss.army.mil. We invite you to visit our web site www.firsttofire.com.





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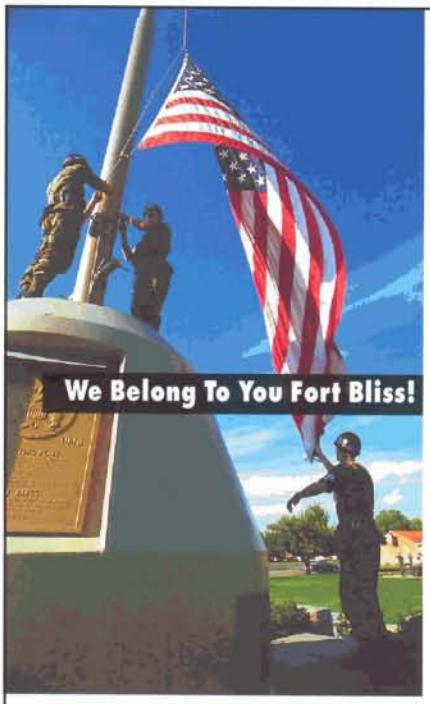

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2001 Worldwide Air and Missile Defense Conference

Agenda as of July 12

Date Time	Event	Location	Speaker/Facilitator	
Monday, 23 July				
0800-1800	Registration	Hinman Hall, Room 115	CPT Misket	
0730-0830	Golf Tournament Sign-In	Underwood Golf Course	Tom Bailey	
0830-1330	Golf Tournament	Underwood Golf Course	Tom Bailey	
1330-1430	Golf Awards Ceremony	Underwood Golf Course	Tom Bailey	
1500-1530	Equipment Display Walk-Through	Hinman Hall	MSG Mummert	
1530-1630	Panel Organization Meetings	various	Panel/Group Leaders	
1800-UTC	CGs Ice Breaker	CGs Quarters	MG Green	
Tuesday, 24 July				
0730-0900	Registration	Hinman Hall, Room 115	CPT Misket	
0900-0930	Opening Ceremony	Soldier Hall	MG Green/CSM Avery	
0930-1100	CG / CSM State of the Branch	Soldier Hall	MG Green/CSM Avery	
1100-1300	Equipment Displays	Hinman Hall	MSG Mummert	
1100-1145	Photos (GOs, CDRs, CSMs, etc)	Hinman Hall	Mr. McKnight	
1130-1230	Lunch (Active and Retired GOs)	Officer's Club	MG Green	
1300-1430	Keynote Speaker	Soldier Hall	GEN Abrams	
1430-1530	Equipment Displays	Hinman Hall	MSG Mummert	
1445-1530	Train the Load Working Group	Room 122	COL Locke	
1530-1700	Ft. Bliss Museum Grand Opening (and ADAA Meeting)	New Museum	MG Green / COL Landry	
1800-UTC	"Old Buddies Night" (CSMs/SGMs)	"The Edge of Texas"	CSM Avery	
1800-UTC	CTC Working Group - Lessons Learned	"The Golden Tee" Golf Course Restaurant	COL Trumps	
Wednesday, 25 July				
0600-0700	Post Run			
0830-0930	PERSCOM Briefing	Soldier Hall	LTC Friederich/MAJ Letnaunchyn	members
0930-1200	AMD O&O Panel	Soldier Hall	COL Kirby	members
0930-1130	Leader Development Panel	Patriot Hall	Mr. Washko	
0930-1030	Developing Leaders vs. Training Leaders		MAJ Dillemuth	
1030-1130	Individual Development Education Plan		Mr. Janisheck	members
0930-1130	Retention Working Group	Rm. 120	Mr. Kimmich	members
0930-1130	CTC Working Group	Rm. 118	COL Trumps	members
0930-1130	AC/RC Integration Panel	TBD	LTC Patton	members
0930-1130	Train the Load Working Group	Rm. 122	COL Locke	
0900-1500	Equipment Displays			
1130-1230	Lunch (Divisional BN CDRs w/CG)	Officer's Club		members
1330-1600	Modernization Update (Panel)	Soldier Hall	Mr. Don Harris	members
1300-1600	Leader Development Panel	Patriot Hall	Mr. Washko	
1300-1400	Captains Career Course		Mr. Kumm	
1400-1500	Basic Officer Leaders Course		TBD	
1500-1600	14S Master Gunner Course		Mr. Kumm	members
1300-1600	Retention Working Group	Rm. 120	Mr. Kimmich	members
1300-1600	CTC Working Group	Rm. 118	COL Trumps	members
1300-1600	AC/RC Integration Panel	TBD	LTC Patton	members
1300-1600	Train the Load Working Group	Rm. 122	COL Locke	
1800-UTC	Conference Dinner	Centennial Club		
Thursday, 26 July				
0900-1200	AMD Enlisted Update (CSMs/SGMs)	Centennial Club		members
0830-1130	Leader Development Panel	Patriot Hall	Mr. Washko	
0830-0930	Patriot Training Effectiveness Analysis		Mr. Janksheck	
0930-1030	MAS 14R/S vs 14J Manning		TBD	
1030-1130	Beyond Visual Range Engagement (BVRE)		MAJ Dillemuth	members
0830-1130	Retention Working Group	Rm. 120	Mr. Kimmich	members
0830-1130	CTC Working Group	Rm. 118	COL Trumps	members
0830-1130	AC/RC Integration Panel	TBD	LTC Patton	members
0830-1130	Train the Load Working Group	Rm. 122	COL Locke	
0900-1300	Equipment Displays			
1130-1300	CG Executive Session Luncheon (GOs, COLs, Project/Product Managers, BN CDRs)	Officers Club		
1200-1300	CSM Luncheon	Centennial Club	CSM Avery	
1330-1445	Guest Speaker: LTG Cosumano	Soldier Hall	LTG Cosumano	
1500-1600	BG Mercklinghaus?	Soldier Hall	BG Mercklinghaus	
1630-UTC	Working Group / Discussion Panel Outbrief Preparation	various	Panel/Group Leaders	
Friday, 27 July				
0930-1100	Outbriefs to CG	Soldier Hall	Working Group Leaders	
1100-1115	Conference Closing Ceremony	Soldier Hall	MG Green/CSM Avery	
1115-1130	CG Closing Comments	Soldier Hall	MG Green	
1130	End of WWAMD Conference			

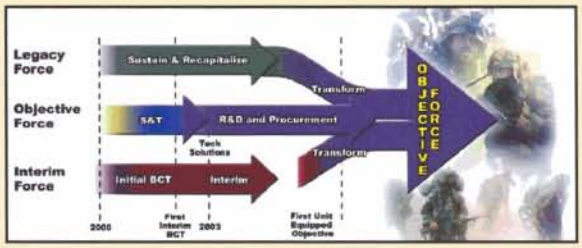
We'll help chart your course to the future . . . AMD Force

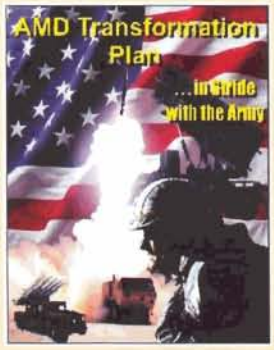
Sigmatech Inc. is the prime Systems Engineering and Technical Assistance (SETA) contractor for the Army Program Executive Office for Air and Missile Defense, specializing in systems engineering and integration, concepts development, and technical writing and publications. Sigmatech can help the AMD community chart its course to Army transformation and the future, objective AMD force.

Products for AMD Modernization and Transformation

The Annual AMD Modernization Process

- Updating the System Modernization Plans
- Updating the POM/EPP UFR Priorities
- Production of the Warfighting Lens Analysis (WFLA)





The AMD Transformation Plan and the AUSA Brochure

- The AMD Transformation Plan is a 100 page "roadmap" for transforming the current AMD force to the objective AMD force.
- The AUSA Brochure is an "executive summary" of the AMD Transformation Plan designed primarily as an AMD educational tool for the AUSA conference, but also ideal for general purpose AMD marketing.

Support Products and Services

- Engineering support for the **AMD O & O Concept**
- Development and maintenance of **AMD DTLOMS+ Web Site**
- Budget evaluation and analysis

AMD DTLOMS+ Web Site

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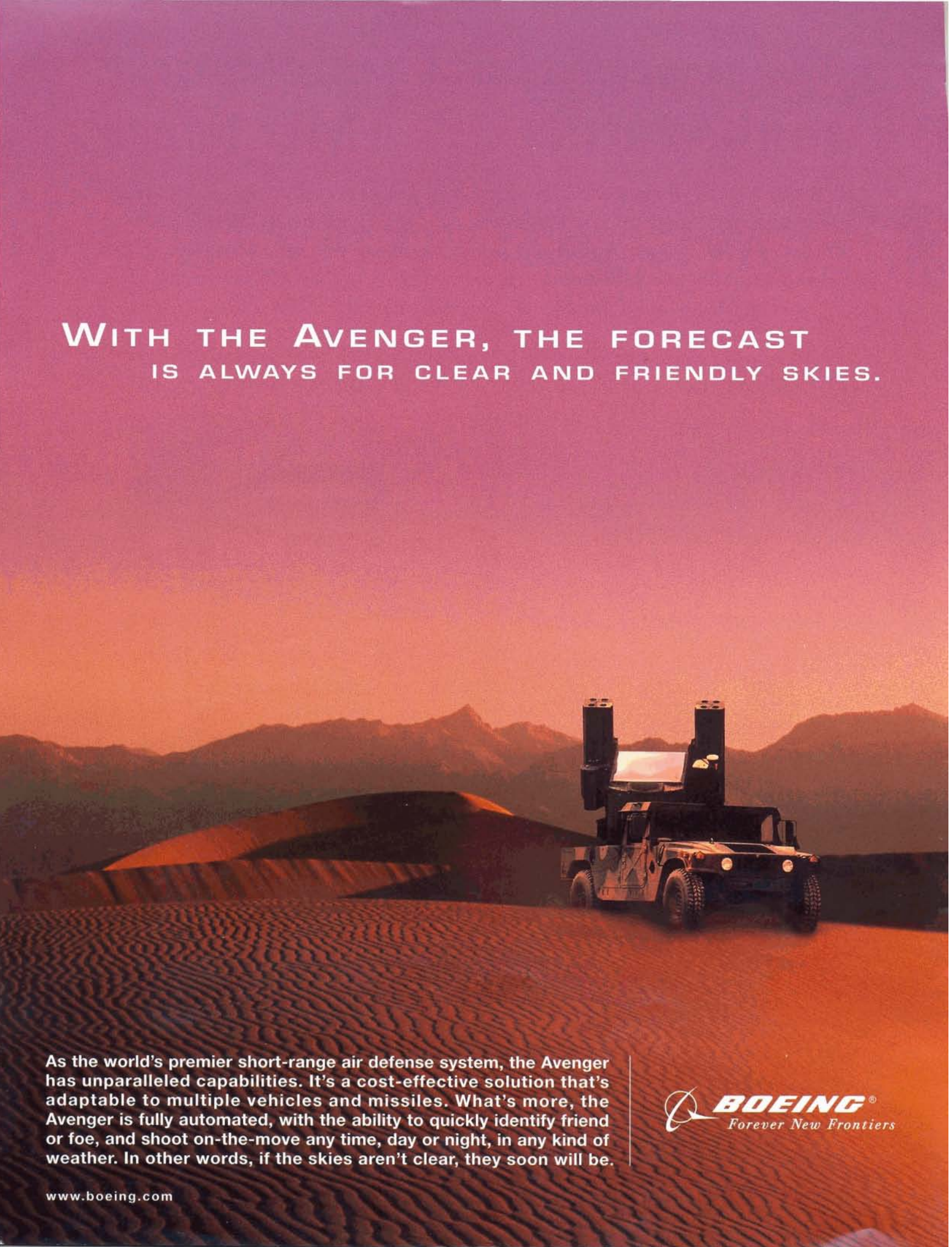
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