



**Torchbearer  
National Security Report**

**Key Issues Relevant to**

***The U.S. Army's  
Transformation  
to the  
Objective Force***

VOLUME I



**An AUSA Torchbearer Issue  
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# Preface

Army Transformation is not just a set of ideas, speeches and catchy slide presentations. This effort—already ongoing for several years—is even more critical now as The Army prepares for its escalating role in counterterrorism activities made necessary by the events of 11 September 2001.

Transformation entails many diverse efforts, all of which are moving forward simultaneously: developing new weapons and information systems, rebuilding and updating old equipment to meet today’s challenges, creating new types of units to better fit the current and emerging strategic environment, and all the while focusing on the needs of the key factor that makes Transformation possible—the Soldier.

This first volume of issue papers highlights some of the most important components of Transformation, related concepts and emerging capabilities. We begin with **Frequently Asked Questions** about Army Transformation, which helps explain the ideas behind the framework for The Army’s evolution over the next 30 years. The second issue paper discusses an often mentioned, yet seldom understood, proposal to “skip a generation of weapons.” In **The Risks of Skipping a Generation of Weapons**, we outline the significant risks to our soldiers and national security this proposal entails. The third topic is the Army’s growing **Precision Fires** capability which provides an unmatched system that can “see first, understand first, act first and finish decisively.” Lastly, because the entire Transformation effort depends on a parallel transformation of the Army’s logistics system, the final topic is **Logistics Transformation**, where we examine the new concepts and ideas behind the important changes taking place in the Army’s combat service support systems.

The overarching goal of Army Transformation is to improve the options available to the nation’s leaders for assuring our allies, deterring threats to our national interests and, when necessary, acting decisively and with minimal casualties to defeat our enemies. This first volume of issue papers should foster more informed discussion and decisions as the Army moves forward with Transformation.

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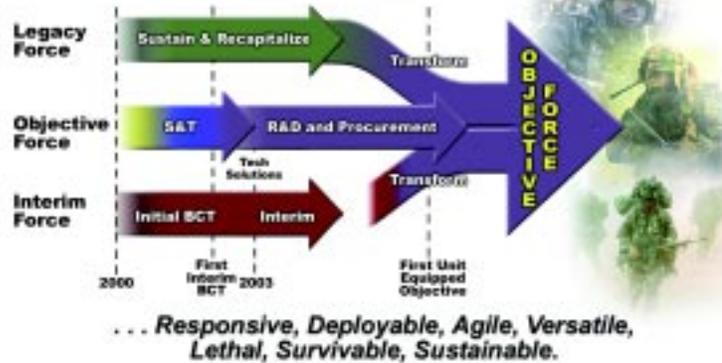


*Army Transformation is the U.S. Army's roadmap for the next 30 years. It is a complex process that can lead to misperceptions if not fully understood.*

## Army Transformation: What does it all mean?

A brigade anywhere in the world in 96 hours after lift-off, a division on the ground in 120 hours, five divisions in 30 days.

### The Army Transformation



Dominant at every point on the spectrum of operations

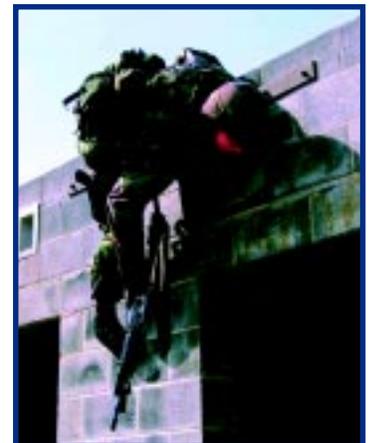
S&T: science and technology  
R&D: research and development  
BCT: brigade combat team

The Army's official Transformation graphic (above) portrays the overall concept of the Transformation program. Any plan of this complexity naturally generates many questions. What follows are some of the most important issues raised by the Transformation process.

### 1. Why does The Army need to “transform” into something new? Isn't it the best Army in the world already? Why change it?

Maybe you've heard—the Cold War is over!

- America's security needs have changed and The Army must change with them. The Army must carry out a wide variety of missions, **from homeland defense to peacekeeping to counterterrorism to high-intensity regional warfare.**
- As a result, The Army must transform into a new force that will be better able to confront these kinds of threats while still maintaining the ability to fight and win decisively in a head-to-head fight.



### The Value of Speed



- In an interdependent global economy where information travels very quickly, speed matters. Getting American troops rapidly on the ground in force could make the difference between containing a crisis or watching it spiral out of control.
- The Army of today has two kinds of forces: heavy and light. The light units, like the 10th Mountain (Light) Division, can get to the battlefield quickly but lack staying power and lethality once they're on the ground. Heavy units, such as the 3d Infantry Division (Mechanized), are very powerful but take time to deploy because much of their equipment and supplies must come by sea.
- The goal of Army Transformation is to field a force that is strategically responsive and dominant at every point on the spectrum of operations. This transformed force will be able to both rapidly deploy and handle any kind of threat once it gets there.

This is the first in a series of discussion papers on key issues relevant to the U.S. Army's Transformation to the Objective Force.

more . . .



## 2. The chart refers to three forces (Legacy, Interim and Objective). What are they?

- **The Legacy Force.** This can be thought of as “where we are” and consists of The Army of today: M1 tanks, Apache helicopters, howitzers and all the vehicles that supply and support them. These forces will be with us a long time. The Army will retain and improve the Legacy Force to meet America’s near-term commitments while Transformation proceeds. Keeping these forces the best in the world is a vital part of Transformation. To do this, The Army plans to complete an extensive modernization and recapitalization effort to rebuild, replace or refurbish aging weapons and vehicles.
- **The Interim Force.** The Army currently is converting two brigades, and has announced the formation of four more, that are designed to fill the strategic near-term capability gap that exists today. Unlike The Army’s heavy units, these forces are equipped with lighter, more deployable vehicles that can be rapidly transported where they are needed. Because the Objective Force won’t be fielded for many years, the Interim Force will provide a more deployable force in the interim period before the Objective Force is operational.
- **The Objective Force.** This refers to the future Army that will be equipped with a new generation of weapons and systems yet to be developed. It will be equipped with the Future Combat System (FCS), which will use an integrated “system of systems” approach to create a lighter, well-protected but more lethal force than today’s Army. The first of these units is not expected to become operational until 2010 at the earliest. This force is designed to be as lethal as today’s heavy forces and as deployable as today’s light units.



## 3. What does “recapitalizing” the Legacy Force mean?

- “Recapitalize” is a business term that refers to putting money back into current systems to keep them running and reduce operating costs. Examples of recapitalization in The Army include rebuilding tanks, helicopters, trucks and other equipment in order to both upgrade them to the latest standards and ensure they continue to work reliably. This is vital because if The Army goes to war before the Objective Force is ready, it will do so with today’s equipment, which must be updated and rebuilt to remain effective.

## 4. “Responsive, deployable, agile, versatile, lethal, survivable, sustainable”—good buzzwords, but what kind of force do they represent?

- These seven adjectives describe the characteristics and capabilities of the Objective Force. The goal is a force that can deploy rapidly (*responsive, deployable*) and conduct many different missions, from peacekeeping to full combat (*agile, versatile*). The Objective Force must also have as much firepower and be as well protected as today’s heavy forces (*lethal and survivable*) while being much easier to support with supplies and services anywhere in the world (*sustainable*).



## 5. What does “dominant at every point on the spectrum of operations” mean?

- The “spectrum of operations” can be thought of as a sliding scale with missions such as disaster relief at one end, peacekeeping/peace enforcement in the middle, and full-scale combat operations at the opposite end. The goal is to have a general purpose force that is more capable than anyone else at all points on the scale.

*The demands of the changing strategic environment, combined with the strengths and limitations of today’s Army, point to the need for fundamental change. The Army’s plan for this essential change is Army Transformation.*

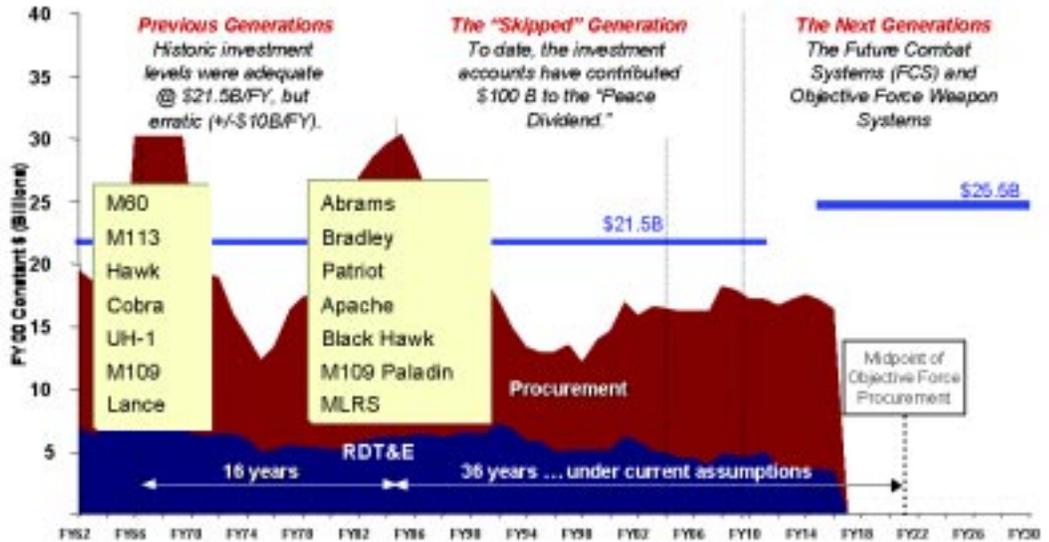


### Skipping a Generation of Weapons—A Bad Idea

## The Army Has **Already** Skipped a Generation of Weapons

During the 1990s, The Army's modernization consisted of only upgrades and technology insertion, not new platforms!

- M1 Abrams → M1A2
- M2/3 Bradley → M2A2
- AH-64A Apache → AH-64D
- UH-60A Black Hawk → UH-60L
- Patriot Missile → PAC-2



**Current systems—Abrams, Apache, Bradley, Black Hawk, Patriot—are upgrades of older platforms designed in the 1970s and 1980s.**

**The upgraded M109 Paladin tube artillery system was originally designed in the 1950s!**

## We Can't Risk Skipping Another Generation of Weapons —Don't Run Before You Can Walk!

"Skipping a Generation of Weapons" — *what does this proposal really mean?*

- The proposal assumes our current equipment and forces are sufficient to handle any threat in the near- to mid-term (10-15 years).
- Therefore, we should scrap many new weapon programs and pour those funds into developing the "next" generation of weapons to arm our forces beyond 2015.
- For The Army, this cancels or severely cuts the Crusader Artillery System, Comanche helicopter and vital digitization programs.



As The Army transforms, many new weapons and technologies are bridges to the fully transformed Objective Force; they will teach us how to organize, equip and operate a network-centric force.

- We must learn to "walk" before we try to "run" with complex next-generation technology.
- Comanche, Crusader and upgrades to the M1 and M2/3 are essential technology bridges to Objective Force weapons and command, control, information and intelligence systems.



## *Bridging the Gap to the Objective Force*

New weapons and technology are essential to maintaining combat overmatch until the Objective Force is a reality.

- **Crusader**—A quantum leap in indirect fire capability
- **Comanche**—The eyes and ears of the Legacy and Objective Forces
- **M1 and M2/3 upgrades**—Maintaining our edge over all potential adversaries



While current U.S. weapons were vastly superior to most threats in 1991, other nations have upgraded and will continue to upgrade their weapons. To blindly assume that the superiority of 1991 will continue through 2015 is dangerous. The Army must continue to upgrade current weapons until the Objective Force is a reality. Failure to do so will needlessly place American soldiers at risk.

Main Battle Tanks 2010-15  
(Without Abrams Upgrade)



Infantry Fighting Vehicles 2010-15  
(Without M2/M3A3 Upgrade)



Artillery 2010-15  
(Without Crusader)



■ Combat Overmatch vs. U.S.    ■ Combat Parity vs. U.S.

By 2010 many potential adversaries will have combat systems that will overmatch U.S. equipment if these new systems and upgrades are not fielded.

## *The Costs of Skipping Another Generation*

Advocates of skipping a generation assume our current weapons are “good enough” to get the job done while we divert billions into the follow-on generation of weapons, but there are important costs to consider.

### The Cost in Lives:

“Good enough” thinking costs lives. The Sherman tank in World War II was known to be inferior to enemy tanks but was thought to be “good enough” to win. As a result, thousands of crewmen lost their lives fighting in inferior vehicles. This should never happen again. Our soldiers deserve the best equipment we can field.

### The Cost in Effort:

Older equipment is much harder to maintain, requiring more manhours. We are already overworking our maintenance force, and this will only get worse.

### The Cost in Funding:

Older equipment is more expensive to maintain and operate. Older equipment requires more work to keep it ready, breaks down more often, and takes more money to fix when it fails.

*The Army has already skipped one generation of weapons. Skipping another generation of modernization also skips a generation of technology maturation. This, in turn, will greatly increase both risk and cost until the Objective Force is a reality.*



## Army Precision Fires—Critical to the Objective Force

The value of seeing the enemy first and hitting him with devastating firepower before he is in range of friendly forces is not new. Armies around the world have been trying to do it for hundreds of years. Today, new technologies are finally making accurate, long-range, precision fires a reality. A combination of new weapons, sensors and data links is enabling the U.S. Army to dramatically increase the range of detection, decrease the time it takes to hit the target, and destroy the target with unprecedented precision—in all weather conditions, day or night.

In addition to providing a lethal and devastating military advantage today, this growing precision fire capability will also have a significant impact on the development of Objective Force data, sensor and weapon systems of tomorrow. Our current systems are just an evolutionary step. Creating, fielding, training and fighting with these new long-range weapons now will allow The Army to create an Objective Force with similar but even more effective precision fire capability in the future.

### Army Precision Fires—The Components

Four elements make up The Army's growing long-range precision fire capability. Together, they provide an unmatched system that can see first, understand first, act first and finish decisively.

- 1 **Rockets and Missiles:** Delivered by the Multiple Launch Rocket System (MLRS) and High Mobility Artillery Rocket System (HIMARS) platforms, precision-guided rockets and long-range missiles can hit targets beyond 300km range, in any weather, around the clock, without risking a manned aircraft. Digital linkage with sensor platforms enables rapid fires against fleeting targets.
- 1 **Rotary-Wing Aircraft:** Apache and Comanche helicopters can hit deep targets with devastating firepower in almost all weather conditions. Far more flexible and survivable than fixed-wing aircraft, they can respond to constantly changing battlefield conditions.



- 1 **Advanced Sensors:** Ground, air and space-based sensor platforms such as Army Firefinder radars, unmanned aerial vehicles (UAVs), satellites, reconnaissance aircraft, infantry scouts and electronic sensors will enable Army precision fires by rapidly detecting, classifying, tracking and relaying targeting data to the firing weapons.
- 1 **Cannon Artillery:** The Crusader artillery system will have a range of 50km and be able to fire 12 rounds per minute—a quantum leap in U.S. artillery capability. Cannon artillery can also fire “danger close” missions in support of friendly ground troops and hit targets in urban and other complex terrain.

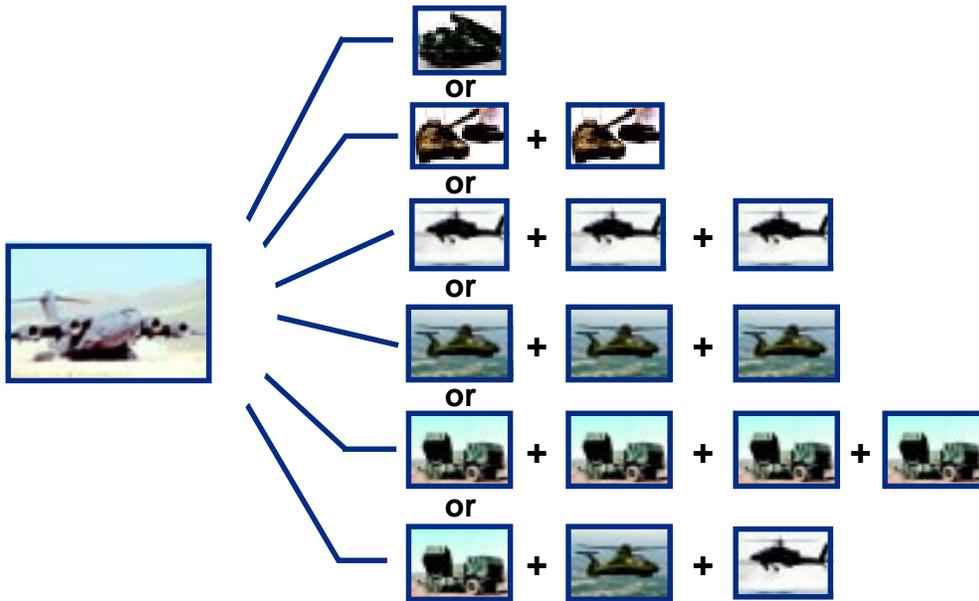
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## Army Precision Fires (continued)

### Army Precision Fires—A Strategically Responsive Solution

To support deployments to today's rapidly developing crises, a weapon system has to get there fast and be able to operate right away. Army precision fire systems can be quickly deployed by strategic airlift to hotspots around the world.



A single C-17 sortie can carry any of these load combinations—both **inter-** and **intratheater**—allowing joint force commanders to quickly gain deep fire superiority and rapidly hit enemy long-range missiles, airfields, armored forces, training camps, logistics nodes and other targets.

### Army Precision Fires—The Key Systems

Several new and upgraded weapon and sensor systems will enable Army precision fires.



#### Crusader Artillery System

- 1 provides a dominant capability deployable with early-entry forces.
- 1 can mass fires on a single target or multiple targets simultaneously.



#### Comanche Helicopter

- 1 combines reconnaissance and strike capabilities in one platform.
- 1 can, with its increased range, self-deploy to many regions.



#### ATACMS Block IA/Block II

- 1 enhances accuracy using Global Positioning System (GPS) guidance.
- 1 provides over 300km range, a substantial increase over current missiles.



#### HIMARS Rocket/Missile Launcher

- 1 fires ATACMS missiles and MLRS rockets from wheeled, light-weight, rapidly deployable system.
- 1 provides light and medium forces with significantly more firepower.



#### Unmanned Aerial Vehicles

- 1 provide direct downlink to firing platforms using robust, high-speed data links.



#### AN/TPQ-47 Radar System

- 1 doubles artillery detection range performance to 60km.
- 1 provides new capability for missile and rocket detection at ranges of 150–300km.

*The synergistic effects of a balanced and complementary set of ground, rotary-wing, air and sea-delivered long-range precision fires is the key to fully exploiting this emerging capability. No one system can do it all.*



### Logistics Transformation—Essential to the Success of Army Transformation

Army Transformation is more than new combat systems. One of the most important parts of Transformation is the Revolution in Military Logistics and the dramatic changes that will result. Simply put, to support an Objective Force that is responsive, deployable, agile and sustainable, an entirely new paradigm of support and sustainment must emerge. The traditional American method of a massive buildup, or “Iron Mountain,” of supplies is being replaced by a system based on velocity, mobility and information. As a major provider of logistics support operations, the Army Reserve is a vital part of this facet of the Transformation process.



### Logistics Transformation: Where We've Been and Where We're Headed

The U.S. Army has the best sustainment system in the world. However, in the past it relied on a massive buildup of supplies that required a huge amount of transportation, storage space, manpower, infrastructure and money. As successful as it proved to be, this model of support nevertheless needed to change. The old system was too expensive, too bulky and too slow, and was vulnerable to disruption at many points.



The Army has made a great deal of progress over the last ten years throughout the totality of Army logistics. Remarkable advances have occurred in streamlining processes, using modern information technology, developing new distribution platforms, improving both air- and sealift capabilities, and bringing in best business practices from the corporate world. However, the transformation is not complete. A new model is emerging that takes fewer people and less transport, time, space and money to work.

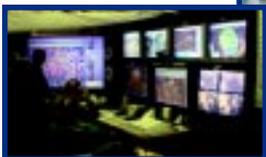


### Logistics Transformation: The Challenge



The central challenge of Logistics Transformation is moving to an entirely new model of faster, more agile, responsive support while still providing for the daily needs of U.S. forces at home and abroad. In addition, Logistics Transformation will challenge The Army's logistics providers to:

Providing support for all three forces while transforming management, equipment and organization of logistics units



- provide the right product, in the right place, in the right condition, in the right quantity, at the right cost, to the right customer, in time, in all weather, worldwide;
- adapt effective, responsive, velocity management tools from the civilian world to the austere conditions under which Army logistics operates;
- support all three forces—Legacy, Interim and Objective—while Logistics Transformation takes place;
- play a large role in the recapitalization effort, both of their own equipment and that of the units they support.



## Logistics Transformation: Enabling Systems and Technology



The Transformation process will provide a distribution-based system relying on logistics velocity, not logistics mass, real-time situational understanding and an organizational design that supports a seamless logistics system. Advances in six key capability groups are needed to meet Transformation goals:

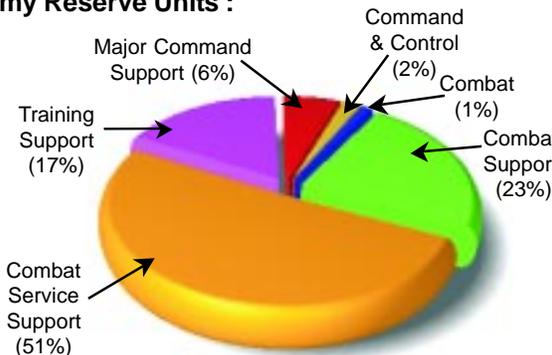
- **A common operating picture:** The capability to see and understand the same enemy and friendly situation for situational awareness and to ensure simultaneity and synchronization of maneuver and logistics.
- **Distribution-based logistics:** A seamless logistics system that is a fully modernized and integrated information system built to support proactive logistics value chains.
- **Assured communications:** A dependable, secure, ubiquitous communication system is essential for providing logistics support.
- **Multimodal platforms:** The ability to use common platforms across a variety of transportation modes. For instance, new FMTV (Family of Medium Tactical Vehicles) trucks can perform many tasks now done by separate vehicles including line haul, local haul, unit mobility, unit resupply and other missions.
- **Modernized data systems:** Information technology harnessed to provide rapid and accurate support data transmission.
- **Reduced demand:** New technologies to produce weapons and systems that are more dependable and need fewer supplies of spare parts, ammunition and fuel to keep them running.

### Logistics Transformation: The U.S. Army Reserve

As a major provider of combat support and combat service support (CS/CSS) for the entire Army, the logistics capabilities represented by the soldiers and civilians of the Army Reserve force will play a major role. Their contribution will include a voice in developing the new concepts, methods, technology and systems demanded by Army Transformation in addition to executing a significant part of the effort to make it actually happen. Now and in the future, the Army Reserve will be an essential contributor to the Army logistics system.

#### Why is the U.S. Army Reserve such an important part of Logistics Transformation?

##### Army Reserve Units :



- 74% of the Army Reserve consists of Combat Support and Combat Service Support Units.
- 46% of the entire Army CS / CSS force above the division level is in the Reserve force.
- The Army Reserve is an essential part of the Army's logistics and sustainment system!



*The U.S. Army Reserve—a key player in the Logistics Transformation program*



# Torchbearer Message

As The Army moves down the trail to a transformed Objective Force, it must guard against the decoupling of the elements of the Transformation process. The three components of Transformation are not separate programs; they are all part of one program. It is essential that one not be allowed to become the “billpayer” for the others in a fiscally constrained environment. **The value of Transformation lies in the interaction and synergy of all three elements—the Legacy, Interim and Objective Forces.**

The issue papers in this Torchbearer discuss some of the most important issues and programs related to Transformation. AUSA believes that:

- Ensuring public understanding of the complex and interdependent facets of Army Transformation is essential to its continued support.
- The Army has already skipped a generation of weapons and can't afford to skip another. Trying to do so will waste money and unnecessarily place our soldiers at risk.
- The Army's evolving Precision Fire capability provides strategically responsive, long-range firepower that complements and reinforces the capabilities of the other services.
- Army Transformation is dependent upon the parallel transformation in logistics in which the U.S. Army Reserve will play a major role.

**Army Transformation is even more critical now as The Army prepares for its escalating role in counterterrorism activities made necessary by the events of 11 September 2001. AUSA strongly supports Army Transformation and is doing all it can to ensure that decisionmakers, AUSA members and the public at large understand The Army's plan and, in turn, become advocates for Transformation.**

*The soldier, not the equipment, is the centerpiece  
for transforming to a 21st century Army  
in a 21st century world.*



*The Objective Force is more than new combat systems . . .  
it includes new organizational designs, warfighting concepts, training  
and leader development approaches, and a system of systems.*

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**Institute of Land Warfare  
Association of the United States Army**  
2425 Wilson Boulevard, Arlington, Virginia 22201-3385  
800-336-4570 [www.ausa.org](http://www.ausa.org)