



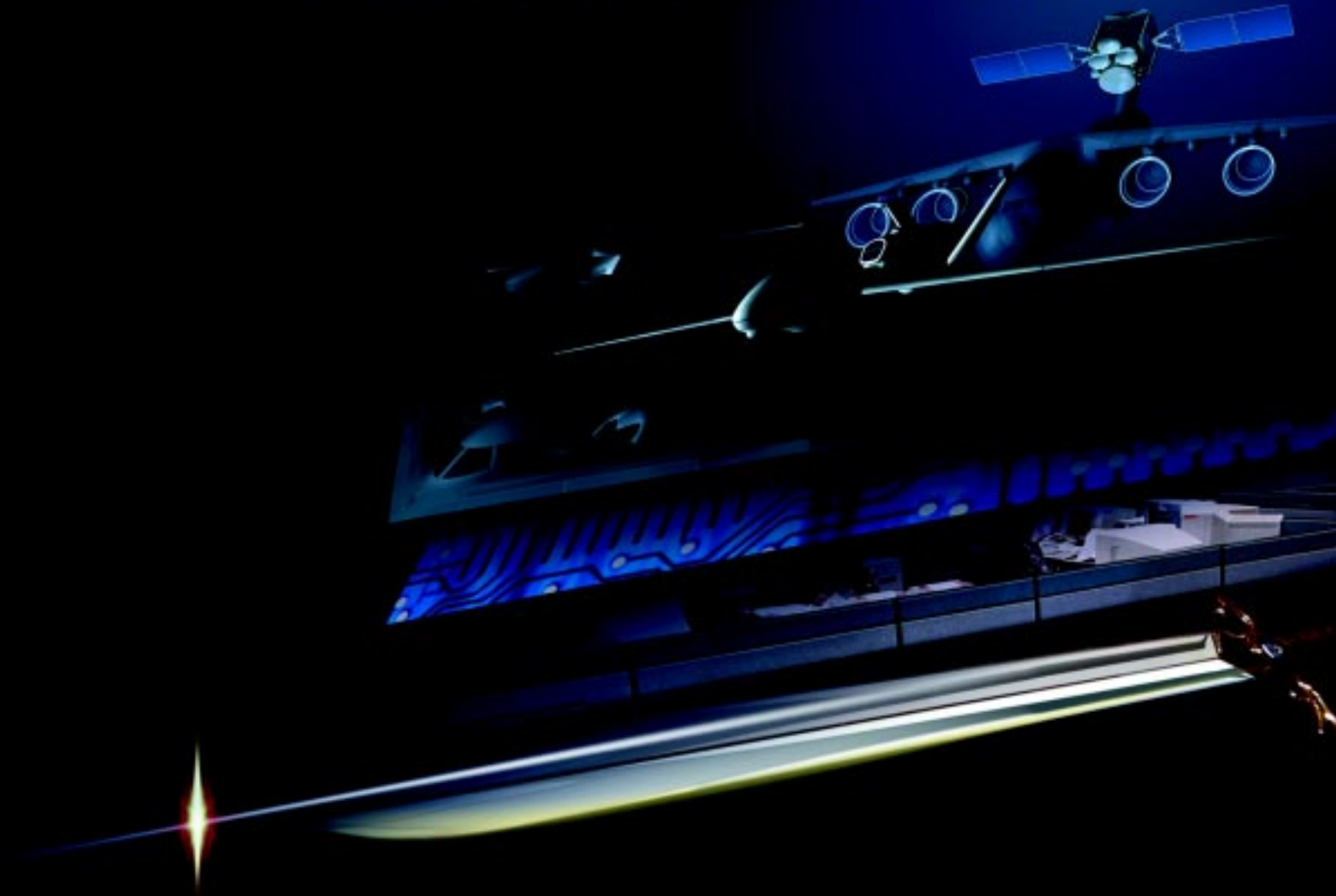
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THE EDGE

AIR FORCE TRANSFORMATION





The U.S. military is adapting to profound changes in the nature of conflict and the conduct of warfare brought about by dramatic advances in technology and by the new international security environment of the post-Cold War era. More than ever, the U.S. military must transform to preserve its current advantages, which are in danger of eroding in the face of emerging security threats.

The Air Force is pursuing and adopting new operational concepts, organizational changes, and advanced technologies to significantly improve our warfighting capabilities in support of the global vigilance, reach, and power visions. Changes are required in air and space capabilities, and in how the Air Force thinks about war, requiring transformation of our culture, organization, training, and doctrine. This pamphlet briefly highlights the Air Force's ongoing transformation.

We invite you to join the continuing journey of Air Force transformation.

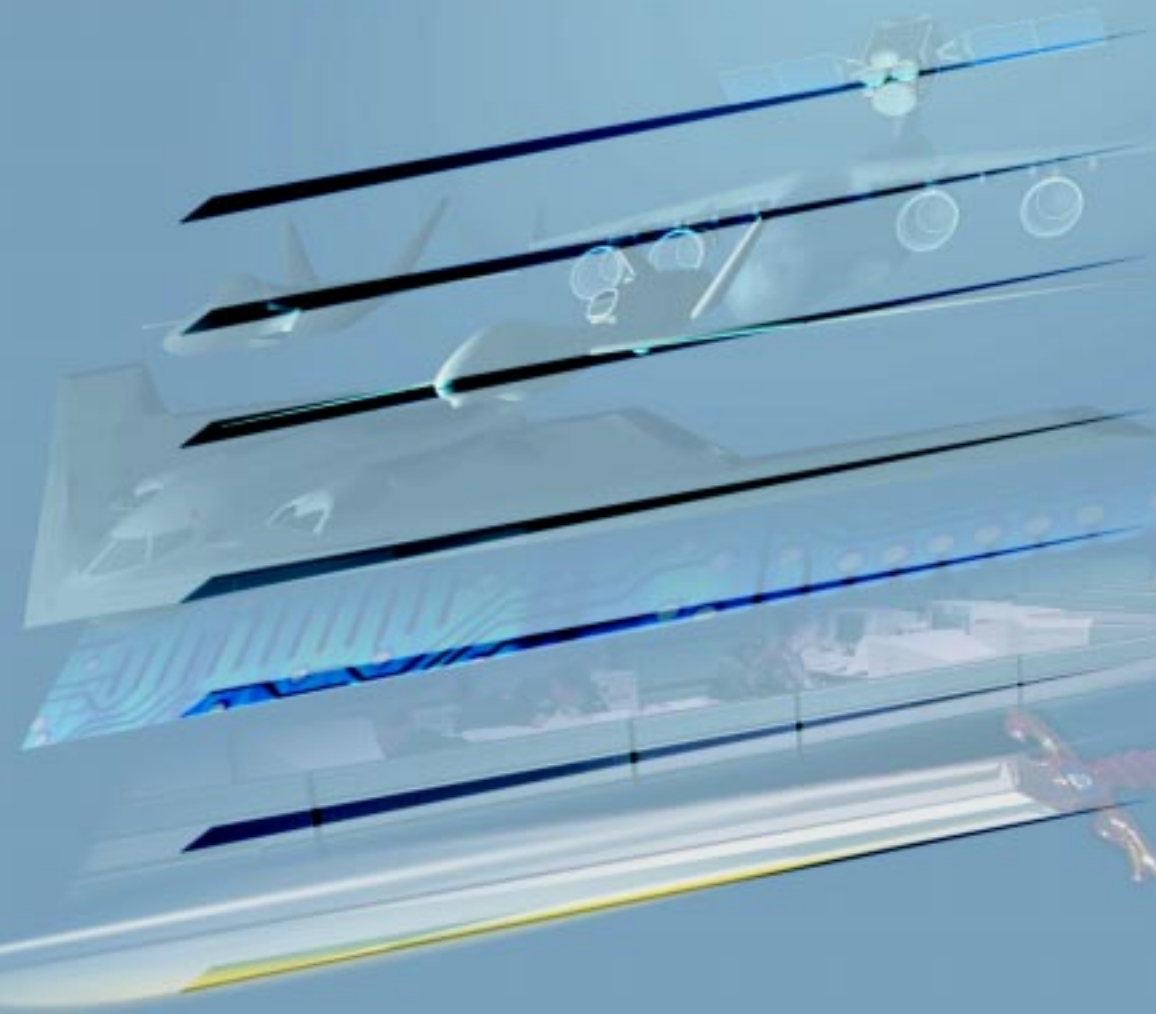
JOHN P. JUMPER
General, USAF
Chief of Staff

JAMES G. ROCHE
Secretary of the Air Force



THE EDGE

AIR FORCE TRANSFORMATION



AIR FORCE TRANSFORMATION...

"...The attacks of September 11th make transforming the department even more urgent, because they have awakened us to a fundamental truth that we have entered a new security environment, possibly the most dangerous the world has known."

DONALD RUMSFELD
Secretary of Defense

OUR DEFINITION

... A PROCESS BY WHICH THE AIR FORCE ACHIEVES AND MAINTAINS ADVANTAGE THROUGH CHANGES IN

OPERATIONAL CONCEPTS

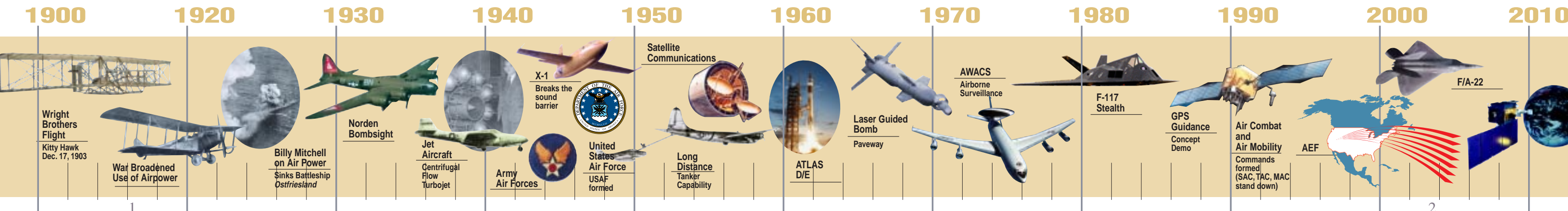
ORGANIZATIONS

AND/OR

TECHNOLOGIES

THAT SIGNIFICANTLY IMPROVE ITS WARFIGHTING CAPABILITIES OR ABILITY TO MEET THE DEMANDS OF A CHANGING SECURITY ENVIRONMENT

OUR HERITAGE.....OUR CULTURE.....OUR FUTURE.....



AIR FORCE TRANSFORMATION...

A CONTINUING PROCESS

Transformation is a continuous process that focuses on the needs of the joint warfighter. Meaningful transformation must involve integration with other Services and non-military elements of national power. However, not all change is transformational.

- The process begins with **Joint Warfighters** analyzing the joint operational environment to determine **Desired Effects**
- The Air Force explores and implements solutions for desired effects via:

AIR FORCE CONOPS:

Provide the long-term roadmaps to securing the right capabilities at the right time and place for the joint warfighter

CONSTANT INNOVATION:

Identify new, sometimes revolutionary, operational concepts through **Battlelabs, Wargames, Experiments, Exercises, Advanced Technology Demonstrations, and Advanced Concept Technology Demonstrations**

- This will produce transformational changes in **Operational Concepts, Organizations, and/or New Technologies** that are incorporated into deploying forces, our **Air Expeditionary Forces (AEF)**

“Transformation is not a term; it is a philosophy—a predisposition to exploring adaptations of existing and new systems, doctrine and organizations. It has been a part of the Air Force for decades. Transformation is not outlining new programs or things to buy. Rather it is an approach to developing capabilities and exploring new concepts of operation that allow us to be truly relevant in the era in which we find ourselves, and for years to come.”

JAMES G. ROCHE
Secretary of the Air Force

AIR FORCE TRANSFORMATION...

IMPLEMENTING CHANGE

The Air Force must modify its culture to be conducive to transformation and adapt as necessary. However, it may not be possible, necessary, or desirable to transform the entire force at once, especially if transformation comes at the cost of our current operations and readiness.

- To institutionalize transformational changes, the Air Force will capitalize on its three Core Competencies:

DEVELOPING AIRMEN

The heart of combat capability. The ultimate source of air and space combat capability resides in the men and women of the Air Force. Our first priority is ensuring they receive the precise education, training, and professional development necessary to provide a quality edge second to none.

INTEGRATING OPERATIONS

Maximizing combat capabilities. Our inherent ability to envision, experiment, and ultimately execute the union of a myriad of platforms and people into a greater synergistic whole is pivotal to maximizing air and space power in a joint warfighting environment.

TECHNOLOGY-TO-WARFIGHTING

The tools of combat capability. The Air Force nurtures and promotes its ability to translate vision into operational capabilities in order to prevail in conflict and avert technological surprise.

- These Core Competencies are the foundation of our success and will ensure we remain dominant in air and space for years to come

“Maintaining our edge as the preeminent Air and Space Force in the world, providing America’s asymmetric advantage for protecting our national interests.”

JOHN P. JUMPER
General, USAF
Chief of Staff

AIR FORCE TRANSFORMATION...

GOALS

The Air Force will continue to transform to develop and field capabilities necessary to sustain our advantages. We will exploit these advantages in the joint warfight and maintain our edge in the face of a changing security environment. The **distinctive capabilities** that the Air Force delivers to the joint battlespace include:

INFORMATION SUPERIORITY...
the ability to control and exploit information to our Nation's advantage ensuring decision dominance

AIR AND SPACE SUPERIORITY...
the ability to control what moves through air and space to ensure freedom from attack and freedom to attack

PRECISION ENGAGEMENT...
the ability to deliver desired effects with minimal risk and collateral damage to deny sanctuary to the enemy

GLOBAL ATTACK...
the ability to engage adversary targets anywhere, anytime to hold any adversary at risk

RAPID GLOBAL MOBILITY...
the ability to rapidly position joint forces anywhere in the world to ensure unprecedented responsiveness

AGILE COMBAT SUPPORT...
the ability to sustain responsive, persistent, and effective combat operations



TRANSFORMATIONAL CAPABILITIES

To transform...the Air Force is pursuing the following 16 capabilities. Some are capabilities we currently do not have, while others require significant improvements to existing capabilities. They are arranged according to the 6 Air Force distinctive capabilities. The nature and details of these capabilities and future CONOPS are subject to change as the new CONOPS mature.

INFORMATION SUPERIORITY:

- 1

Machine-to-machine interface of command and control, intelligence, surveillance, and reconnaissance (C2ISR) systems through the horizontal integration of manned, unmanned, air, surface, information and space systems to provide executable, decision-quality knowledge to the commander in near real-time from anywhere, thereby enabling force application in single-digit minutes from the decision to engage
- 2

Reliable, secure bandwidth and global data link integration on all air and space platforms with fusion to provide commanders clear, coherent, real-time pictures of the global battlespace
- 3

Real-time, deep-look, target-quality information anywhere on Earth that delivers continuous battle space surveillance, enabling 24/7 time-critical targeting and predictive battlespace awareness
- 4

Ensured use of the information domain via defensive information warfare (IW)
- 5

The ability to deny an adversary these same capabilities via offensive IW

AIR AND SPACE SUPERIORITY:

- 6

The ability to conduct persistent stealthy operations in order to penetrate and defeat enemy air defenses and clear the path for follow-on forces
- 7

The ability to conduct effective and persistent air-to-ground operations beyond the range of enemy defenses under adverse weather conditions, 24/7



- 8

The ability to protect vital space assets
- 9

The ability to deny an adversary access to space
- 10

The ability to rapidly launch and operate new space vehicles or refuel and repair existing vehicles
- 11

The ability to detect ballistic missile launches and airborne cruise missiles and to destroy both in flight

PRECISION ENGAGEMENT:

- 12

The ability to conduct high volume attacks with significantly fewer platforms
- 13

The ability to achieve specific, tailored effects on a target, short of total destruction

GLOBAL ATTACK:

- 14

The ability to attack any target, any place, at any time from anywhere rapidly, precisely, and persistently

RAPID GLOBAL MOBILITY:

- 15

The ability to rapidly establish an air-bridge and move military capability in support of operations anywhere in the world under any conditions

AGILE COMBAT SUPPORT:

- 16

Significantly lighter, leaner, and faster combat support to enable responsive, persistent, and effective combat operations

WHERE WE STAND TRANSFORMATION 1 ORGANIZATIONS



The process of transformation begins and ends with our people. Our people become the means to tailor our organizations, enhance concepts, and evolve technology. The Air Force is taking actions to ensure that its culture is conducive to transformation by adapting its organizations to institutionalize a culture that facilitates change. Several current efforts constitute the backbone of continuous cultural adaptation:

AIR AND SPACE EXPEDITIONARY FORCE

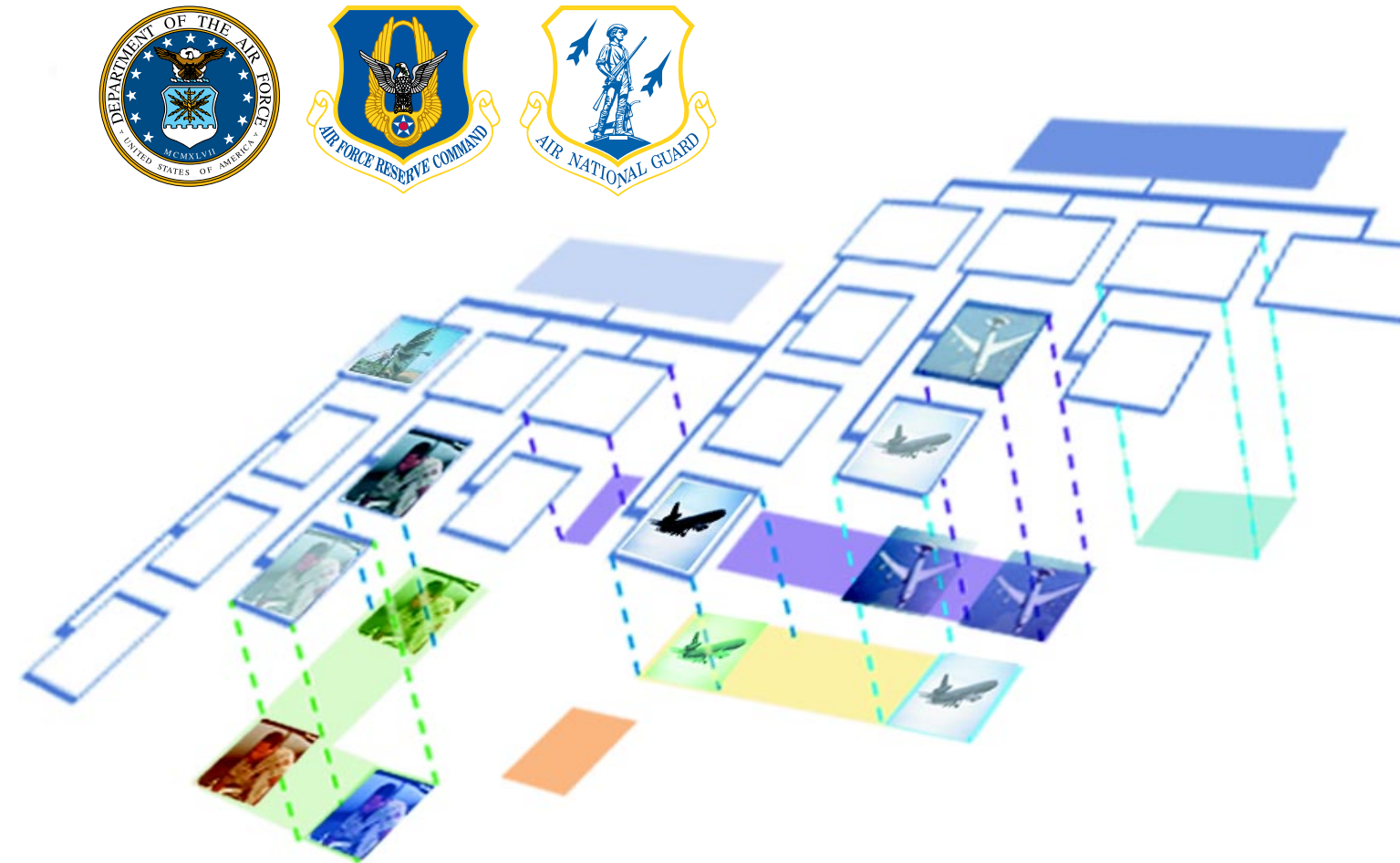
The AEF construct is transforming the Air Force into a rotational and effects-based force capable of rapidly responding to a variety of threats while accommodating the high operational tempo of today's contingency environment.

FUTURE TOTAL FORCE

The Air Force is transforming the way it integrates the Air National Guard, Air Force Reserve and civilian force to produce greater capability more efficiently. A key effort is to form blended wings from two or more components into a single wing with a single commander.

FORCE DEVELOPMENT

The Air Force is developing personnel programs to produce air and space warriors with a total command of their functional area specialties. It is also developing educational programs that diversify the force ensuring correct skills are paired with Air Force requirements.



WARFIGHTING INTEGRATION DEPUTATE

The Chief of Staff of the Air Force created the Deputy Chief of Staff for Integration. It will focus on the integration of manned, unmanned and space platforms to enhance joint and coalition warfighting.

DIRECTORATE OF HOMELAND SECURITY

The FY04 Defense Planning Guidance identified homeland security as a top DoD priority and a key objective for transformation. In response, the Chief of Staff of the Air Force established the Directorate of Homeland Security in January 2002, reporting to the Deputy Chief of Staff for Air and Space Operations.

WHERE WE STAND TRANSFORMATION

2 OPERATIONAL CONCEPTS



CONOPS and new technology coupled with newly-tailored organizations will yield a near order of magnitude increase in combat effectiveness. This is transformation! The Chief of Staff of the Air Force describes the following CONOPS as the building blocks of transformation. They will transform all future Air Force warfighting operations. In addition to serving as a roadmap for operators, these CONOPS will form the basis for resource allocation, future system acquisitions, and Program Objective Memorandum submissions. They will allow the Air Force to support the Joint Forces Commander through the application of air and space power, organized into Air Expeditionary Task Forces (AETF). Each AETF will use capabilities from the following six CONOPS to deliver desired battlefield effects.

AIR AND SPACE EXPEDITIONARY

The overarching context that identifies and sequences distinctive capabilities and broad-based functions that air and space power provide the Joint Force Commander to generate desired effects to help achieve defense strategy goals.

GLOBAL STRIKE

Employs joint power-projection capabilities to engage anti-access and high-value targets, gain access to denied battlespace, and maintain battlespace access for all required joint/coalition follow-on operations.



SPACE AND C4ISR

Harnesses horizontal integration of manned, unmanned, and space systems to provide persistent situation awareness and executable decision-quality information to the Joint Force Commander.

GLOBAL RESPONSE

Combines intelligence and strike systems to attack fleeting or emergent, high-value or high-risk targets by surgically applying air and space power in a narrow window of opportunity, anywhere on the globe, within hours.

HOMELAND SECURITY

Leverages Air Force capabilities with joint and interagency efforts to prevent, protect, and respond to threats against our homeland - whether within or beyond U.S. territories.

NUCLEAR RESPONSE

Provides the deterrent “umbrella” under which conventional forces operate, and, if deterrence fails, avails a rapid scalable response.

GLOBAL MOBILITY

Provides regional combatant commanders with the planning, C2, and operations capabilities to enable rapid, timely, and effective projection, employment, and sustainment of U.S. power in support of U.S. global interests - precision delivery for operational effects.



WHERE WE STAND TRANSFORMATION

3 NEW TECHNOLOGIES

Advances in technology, combined with changes in operational concepts and organizations, can produce some of the most visible Air Force transformations. The new technologies currently under development will continue to enable astonishing advances in future Air Force capabilities. While it is impossible to succinctly identify *every* new technology in this publication, most fall under one of the following categories:

INFORMATION

One of the Nation's best assets is its information superiority. The Air Force will exploit this asset to provide an overwhelming advantage in every field of battle. Current programs being developed include Space Based Radar, remotely piloted aircraft, "Smart Tanker," Multi-sensor Command and Control Aircraft, laser communications, Single Integrated Air Picture and GPS III.

DIRECTED ENERGY

Directed energy weapons will be capable of instantly engaging targets to produce lethal or non-lethal results. They will deliver specific, tailored effects on an enemy. Current systems under development include the Airborne Laser, Advanced Tactical Laser, and the Active Denial System.



STANDOFF

Standoff capabilities will counter enemy anti-access strategies and enable U.S. aircraft to conduct all-weather, 24/7 air-to-ground operations beyond the range of enemy integrated air defenses. Current platforms under development include the Joint Air to Surface Standoff Missile-Extended Range, Hypersonic Standoff Weapon, and Advanced Standoff Cruise Missile.

PRECISION

Today's precision weapons require only one weapon to strike one aim point. The next step will be the ability to conduct higher volume

precision attacks with fewer platforms. Current systems under development include the Small Diameter Bomb and Wide Area Search Autonomous Attack Miniature Munition.

STEALTH

Stealthy aircraft can fly largely undetected in hostile airspace and penetrate advanced air defenses. Stealth allows increased survivability for force packages. Platforms currently under development provide the joint warfighter a persistent stealth capability include the F/A-22, and X-45 remotely piloted aircraft.





THE FUTURE BATTLEFIELD

INTEGRATING ALL SERVICES TO DELIVER OVERWHELMING
COMBAT POWER TO THE JOINT BATTLEFIELD

THE NATION'S EDGE

The Air Force will play a key role in achieving our national Defense Strategy goals. Air Force transformation will ensure the development of a broad portfolio of capabilities that will:

- Assure allies and friends by demonstrating the U.S. national resolve and military capability to defend and advance common interests
- Dissuade adversaries from developing threatening forces or ambitions, shaping the future military competition in ways that are advantageous to the United States and complicate planning operations of adversaries
- Deterring aggression and countering coercion against the United States, its allies and friends in critical areas of the world by developing and maintaining the capability to swiftly defeat attacks with only modest reinforcements
- Decisively defeat an adversary at the time, place and in the manner of our choosing, forcing adversaries to reevaluate their objectives and capabilities

“While the threats to America have changed, the need for victory has not. We are fighting shadowy, entrenched enemies—enemies using the tools of terror and guerrilla war—yet we are finding new tactics and new weapons systems to attack and defeat them. This revolution in our military is only beginning, and it promises to change the face of battle.”

GEORGE W. BUSH
President of the United States