

REPORT OF THE SECRETARY OF THE AIR FORCE

The dawn of the 21st century finds the Air Force in the midst of an evolution—an evolution that began with the advent of manned flight in 1903 and continues on the path to the seamless integration of air, space, and information systems. To realize this vision, the Air Force is reshaping its forces, both manned and unmanned, to respond more rapidly, more precisely, and from greater distances than anyone thought possible, a decade ago. The Air Force is modernizing its space forces to enable joint operations while developing the capability to instantaneously monitor any activity of interest on, above, or below the surface of the earth. The Air Force is leveraging the power of emerging information technologies to gather, move, sort, fuse, attack, and defend information, ensuring decision dominance over potential adversaries anytime, anywhere. Finally, the Air Force is tightly integrating these air, space, and information systems to provide responsive, flexible aerospace power for America.

Although America's Air Force is well established on this trajectory, challenges remain. The increasing cost of operations, maintenance, and personnel programs is consuming the funds needed to modernize and fully realize the benefits of an integrated air, space, and information force. Key systems—missiles, bombers, tankers, airlift, combat search and rescue (CSAR), intelligence, surveillance, and reconnaissance (ISR) aircraft, and space systems—are aging, and the Air Force has little or no funding for replacements. The physical infrastructure that supports these systems is also steadily deteriorating. Perhaps more importantly, the robust economy, fueled by the peace dividend, makes recruiting and retaining a skilled professional all-volunteer force extremely difficult.

Each of these challenges is compounded by an unprecedented demand for aerospace power, as seen in the skies of Iraq and the former Yugoslavia and on the ground in East Timor, Mozambique, and over 60 other countries; all required to protect the sovereignty and interests of the U.S. while providing homeland security against new, asymmetric threats. These demands, in turn, place significant burdens on the Air Force's finite resources, particularly its people.

The Air Force answered some of these challenges by reorganizing its deployable forces into ten Aerospace Expeditionary Forces (AEF), rotational units of relatively equal combat capability. This Expeditionary Aerospace Force (EAF) concept provides the Joint Force Commander a trained-to-task, tailored force, while giving Air Force personnel more stability and predictability regarding their deployment schedules. The other challenges, however, can be addressed only by increasing resources, reducing infrastructure, decreasing commitments, or accepting higher risk. The Air Force must recapitalize (modernize or replace) its bomber, tanker, airlift, missile, CSAR, ISR, and space systems. It must shed excess real property and find resources to adequately maintain what remains. It must leverage the rapid technology cycle of evolving information systems. Most importantly, it must adequately compensate, both tangibly and intangibly, its people—Active Duty, Guard, Reserve and Civilian—to retain the right number and proper mix of skilled personnel.

America's Air Force is continuously evolving, fueled by the dreams of five generations of airmen—from Giulio Douhet and Billy Mitchell, to Benjamin O. Davis and Bernard Schriever, to the current generation of pioneers. Creativity, hard work, prudent investment, and continued congressional support will ensure that the Air Force continues to deliver Global Vigilance, Reach, and Power for America.

GLOBAL VIGILANCE, REACH, AND POWER

The Air Force provides national security and promotes global stability through the integration of global vigilance, reach, and power—global vigilance to anticipate and deter threats; global reach to project military power and humanitarian relief anywhere in the world; and global power to deter conflicts or end them decisively.

DETERRENCE

Through demonstrated commitment, resolve, and a viable strategic force, America deters aggression with its ability to respond anytime, anywhere. The Air Force maintains this posture through its expeditionary, rapid global mobility, space support, and nuclear forces. With its bombers and land-based intercontinental ballistic missiles (ICBM), the Air Force operates two legs of the nuclear triad. The bomber, with its unique strengths of payload, range, and responsiveness, coupled with precision attack, has become the cornerstone of the Air Force's force projection capability. Similarly, the ICBM force provides a quick-reaction and highly survivable force with a mission capable rate greater than 99 percent.

INTELLIGENCE, SURVEILLANCE & RECONNAISSANCE

Air Force ISR assets provide continuous global presence, enabling decision makers to analyze, respond to, and influence events before conflicts begin. Current Air Force efforts focus on developing unmanned aerial vehicles (UAV), aircraft-mounted pod, and space technologies to improve mission reach and limit risk to airmen. In 2000, the full spectrum of Air Force ISR assets continued to monitor Iraqi compliance with UN sanctions and support worldwide contingency operations.

FORCE PROTECTION AND COUNTERINTELLIGENCE

The Air Force has institutionalized force protection through enhanced training, equipping, and reorganizing of its security forces to exploit technological advances. The Air Force is conducting extensive vulnerability assessments to improve security at permanent and deployed locations. In FY 2000, security forces from higher headquarters conducted 48 assessments of Air Force installations making recommendations concerning the physical security of people and resources, protection of food and water, and the ability to respond to incidents involving weapons of mass destruction (WMD). Similarly, the Air Force Office of Special Investigations (AFOSI) worked with various Air Force agencies to enhance their programs and increase efforts to protect emerging and existing sensitive technologies. AFOSI conducted more than 150 vulnerability assessments, 350 protective service activities, and 8,000 antiterrorism briefings in FY 2000, enabling commanders to take precautions to avert potential terrorism incidents.

COUNTER-NBC OPERATIONS

The Secretary of Defense described the potential use of WMD against America and its allies as the greatest and most complex challenge facing the DoD. The Air Force's balanced response to the proliferation of

WMD is to integrate actions based upon the four pillars of counterproliferation (proliferation prevention, counterforce, active defense, and passive defense). This strategy aims to deter or prevent an adversary from acquiring or using nuclear, biological, and chemical (NBC) weapons; disrupt or limit an attack; and survive and restore operations in the event of attack. The Air Force recently drafted a Counter-NBC Roadmap for procuring future systems and is currently developing doctrine and concepts of operation to sustain high operations tempo in the case of an NBC attack. Finally, the Air Force Technical Applications Center (AFTAC) operates and maintains a global network of nuclear detection sensors to analyze events for nuclear identification and it reports findings to the National Command Authorities (NCA). AFTAC is also leading the advancement of technologies to detect and monitor the development of foreign chemical and biological weapons.

INFORMATION ASSURANCE

A robust information assurance (IA) capability protects the warfighter. In 2000, the Air Force conducted 48 IA assessments of Air Force installations and developed a multi-layered strategic plan to integrate operations, people, technology and oversight through an enterprise-wide, network-centric concept. The Air Force is expanding this strategy to emphasize and provide integrated network operations and information protection, automated and dynamic detection and response, consolidated situational awareness and decision support, and IA in deployed and classified environments. While suspicious network activities, including probes and intrusion attempts, increased to an average of over 30 million events per month, the Air Force reduced the number of successful intrusions to only two per month (none against critical systems). Finally, the Air Force developed an Information Warfare modernization plan that outlines long-term investment strategies including IA and computer network defense.

COUNTER-NARCOTICS

The Air Force maintains operational oversight for several individual efforts that support the President's National Drug Control Strategy. The Air Force provides Airborne Warning and Control System (AWACS), EC-130 Senior Scout (signals intelligence), and Air National Guard and active-duty F-16 aircraft in support of U.S. Southern Command's counter-narcotic operations. These aircraft have recently relocated to Ecuador and the Netherlands Antilles in order to identify, scramble, and intercept potential airborne drug smugglers more effectively.

HUMANITARIAN OPERATIONS

The Air Force provides an American presence in regions of the world where the U.S. is working to build goodwill and improve relations, as well as enabling quick humanitarian relief during natural disasters. In March 2000, Joint Task Force ATLAS RESPONSE provided assistance to flood-ravaged Mozambique. Active duty and Reserve aircrews flew more than 600 sorties, delivering 970 tons of crucial supplies and transporting them to people isolated by the deluge. The Air Force also played an important role in fighting the worst wildfires in the western United States in 50 years. Eight Guard and Reserve C-130 aircraft equipped with modular airborne fire fighting systems flew nearly 600 missions and dropped almost 1.5 million gallons of fire suppressant. The Air Force transported Army, Marine, and civilian firefighters to Idaho, Montana and California. Forty-eight airlift missions transported 5,970 passengers and 339 tons of cargo.

BALKAN AND SOUTHWEST ASIA OPERATIONS

Airmen located throughout the world support Kosovo Forces (KFOR) and Stabilization Forces (SFOR) in the Balkans. Air Force contributions deployed to the region include fighter, tanker, ISR, and airlift aircraft; command and control capability; combat search and rescue forces; special operations units; UAVs; and space-based assets. Of the 48,000 total coalition combat sorties flown, almost 50 percent have been flown by the Air Force. Navy and Marine Corps sorties totaled 6 percent with the remaining 44 percent flown by NATO coalition partners.

The Air Force has over 8,000 airmen continuously deployed to Southwest Asia in support of Operations NORTHERN WATCH and SOUTHERN WATCH (the coalition's no-fly zone enforcement operations over northern and southern Iraq). Air Force ISR assets provide crucial intelligence and situational awareness to the NCA, particularly in the forms of indications and warning, intelligence, as well as monitoring Iraq's compliance with UN WMD mandates. The coalition flew more than 23,000 combat sorties during FY 2000 with no combat losses. Of these sorties, approximately 63 percent were flown by the Air Force. During strikes in response to Iraqi no-fly zone violations, 98 percent of all bombs dropped by U.S. forces were precision-guided munitions (PGM). They destroyed a significant portion of Iraq's anti-aircraft artillery systems, threat radars, and command centers.

SECURITY ASSISTANCE

Through foreign military sales and support for direct commercial sales of U.S. weapon systems, the Air Force has increased interoperability and encouraged foreign investment in the aerospace industry. In 2000, for example, the Air Force facilitated F-16 sales to the United Arab Emirates, Greece, and other countries. International Military Education and Training programs improved the skills of foreign military coalition partners, while the International Armament Cooperation program allowed the Air Force to co-develop and field interoperable and compatible weapon systems through cooperative agreements. Additionally, Air Force aviation advisory units counsel and train foreign military organizations to employ and sustain their own assets. These combined security assistance contributions enhance international relationships, promote interoperability, and facilitate coalition operations.

THE FOUNDATION—AIR FORCE PEOPLE

America's Air Force is a Total Force—Active, Guard, Reserve, and Civilian. Air Force people are its greatest asset and its highest priority. They carry out the mission, work the long hours (often separated from their families) and put forth the extra effort every time it is needed. Retaining them in a robust economy is one of the Air Force's most difficult challenges.

RECRUITING

The Air Force met its active-duty enlisted recruiting goal for FY 2000 and must continue to recruit quality people through 2001 and beyond. Although not expected to make its recruiting goal for FY 2000, the Air Force adopted a "wartime mentality" on recruiting and ultimately exceeded its enlisted goal by recruiting 34,369 against a goal of 34,000. Additionally, the Air Force brought 848 prior-service members back on active duty. In FY 2000, the Air Force achieved 97 percent of its line officer accession target, although FY 2000 production was 19 percent greater than FY 1998 and 3 percent above FY 1999. Increased production targets present a serious challenge as officer production requirements exceed current capacity. For

example, Reserve Officer Training Corps (ROTC) anticipates production shortfalls of 350 officers in FY 2002 and 280 in FY 2003.

As part of its “war on recruiting,” the Air Force pursued several efforts, including a recruiting summit that performed a cradle-to-grave review of the recruiting and accessions processes, resulting in many new initiatives to improve recruiting. The Air Force also increased the number of authorized recruiters in the field from 1,209 to 1,450 in May 2000 and plans to permanently increase this force to 1,650 by November 2001. The Air Force enhanced its enlistment bonus program by increasing the highest payments to \$17,000 for hard-to-fill skill areas during traditionally low enlistment months. Finally, the Air Force now uses professionally-developed television advertising, a centralized marketing and advertising office, the “Air Force Experience” road show, an improved Internet website, and movie theater advertising to tell the Air Force story and reach out to America. The Air Force is considering several initiatives to alleviate ROTC shortfalls, such as cadet contracts after their freshman rather than sophomore year; legislation to permit use of scholarship funds for expenses other than books, tuition, and fees; increasing the maximum age for scholarship eligibility; and increasing enlisted commissioning opportunities.

RETENTION

The Air Force relies on highly trained technical personnel whose skills are honed by years of military experience. By meeting its retention goals, the Air Force can minimize the number of recruits required and capitalize on the substantial training investment made in every person. However, the sustained strong economic climate in the U.S. and an increase in operations tempo have caused retention rates to fall.

Air Force enlisted retention trends are down, with officer continuation rates below historical averages. FY 2000 was the third consecutive year that the Air Force fell below its enlisted reenlistment goals. However, in FY 2001, the Air Force has seen a major improvement in first term reenlistment rates. Solving the retention challenge is crucial because more than 193,000 airmen, 69 percent of the enlisted force, will make a reenlistment decision between now and FY 2004. Officer retention faces similar challenges. Although rated officer (pilots, navigators, and air battle managers) retention rates increased over FY 1999 levels, retention in non-rated operations and mission-support fields declined. The Air Force ended FY 2000 approximately 1,200 pilots short of its 13,000 requirement. Support officer manning levels are also a concern, especially in the scientist, developmental engineering, communication, air traffic controller, and computer specialties. The Air National Guard and Air Force Reserve are also struggling with retention primarily due to the increasing number of active-duty days required to support contingency operations around the world. Because Guard and Reserve duty is a second job for most of their personnel, this voluntary deployment schedule creates unique retention problems with civilian employers.

To address these challenges, the Air Force developed 19 new initiatives during two retention summits in FY 2000. It also refined its EAF concept, giving Air Force Active, Guard, and Reserve personnel more stability and predictability in their deployment schedules. Additionally, since 1995, the Air Force tripled the number of enlisted specialties eligible for Selective Reenlistment Bonuses (SRB) and raised the maximum SRB payment from \$45,000 to \$60,000. As a result, the first term retention rates have improved to 57 percent through the first two months of FY 2001, exceeding the Air Force goal of 55 percent. Aviation continuation pay (ACP) is helping to curb pilot losses and bridge the gap until the Air Force fully benefits from increased pilot production and the 10-year active duty service commitment for pilot training (increased from 8 to 10 years, effective October 1, 1999). The Guard and Reserve have also taken steps to

retain their personnel through ACP and special salary rates for aviators, as well as authorizing special pay and enlistment bonuses for critical specialties.

CIVILIAN WORKFORCE

Recruiting and retention challenges are not limited to the uniformed members of the Air Force. The EAF has extended the role of civilians to providing reachback support to deployed troops, requiring a different mix of mid-level and senior civilian employees. In 1989, approximately 17 percent of the Air Force's civilian professionals were in their first five years of service, compared to less than 10 percent today. In the next five years, more than 40 percent of the Air Force's civilian workforces will be eligible for optional or early retirement. To meet these challenges, the Air Force convened two civilian workforce summits and improved its civilian force renewal programs. Recently obtained legislation to recruit scientists and engineers from academia and industry should help reinvigorate Air Force research laboratories. New legislation will also pay for civilian academic degrees and enable Voluntary Early Retirement Authority and Voluntary Separation Incentive Pay to meet force-shaping requirements. In the strong economy, the Air Force must continue to creatively recruit and retain the right mix of civilian employees.

QUALITY OF LIFE

The welfare of Air Force personnel is crucial to retaining quality people and directly impacts mission success. The Air Force has prioritized quality of life concerns through advocating fair and competitive compensation and benefits; reducing operations tempo; improving access to quality health care; increasing access to safe and affordable housing; expanding educational opportunities; and enhancing community and family programs, including diverse opportunities for religious expression and spiritual care. In 2000, the Air Force constructed more than 1,300 dormitory rooms for single airmen; built or improved more than 2,600 housing units; upgraded dining facilities; renovated fitness centers; and improved or added child development centers. For the Air National Guard, the work place is a primary quality of life issue. With Congressional support, nearly \$200 million was spent in FY 2000 to update aging Guard facilities. Airmen continue to rank compensation and benefits as their top quality of life concern and responded positively to the message of support and acknowledgement contained in the Fiscal Year 2000 and Fiscal Year 2001 National Defense Authorization Acts. Congressional support for the tangible benefits contained within these bills complement the intangible rewards of military service and is crucial to recruiting and retaining the Total Force.

THE DOMAIN—THE AEROSPACE CONTINUUM

The Air Force is developing a full-spectrum expeditionary aerospace force, enabled by integrated air, space, and information systems, with a domain stretching from the Earth's surface to its farthest orbits. To fully realize this vision and establish this integration foundation, the Air Force published a white paper entitled *The Aerospace Force—Defending America in the 21st Century* and created a comprehensive Aerospace Integration Plan. These documents identify near-term, high-leverage actions to further the development of integrated employment concepts, culture, cross-flow between personnel specialties, doctrine, organizational structures, equipment, and resource allocation.

THE METHOD—THE EXPEDITIONARY AEROSPACE FORCE

The EAF has become the centerpiece of the ongoing evolution of American aerospace power. Based on the demands for aerospace forces over the last 10 years, Air Force leaders designed the EAF force structure to ensure that on-call forces can meet steady-state commitments. This EAF structure includes ten AEFs and two Aerospace Expeditionary Wings, supporting mobility forces, and both operational and support capabilities not organically assigned to the AEFs or AEWs—capabilities such as intelligence, deterrence, space control, acquisition, health care, and education and training. An AEF is fast—the Air Force can deploy an AEF of about 120 combat aircraft and 10,000 people in 48 hours and can deploy up to 5 AEFs in 15 days. Each AEF is lethal—it is able to put PGMs on more than 200 targets per day. Finally, the AEF is flexible—it provides the nation an increasingly capable, trained-to-task, strategically relevant force that rapidly projects power anywhere in the world. Instead of sending personnel and equipment forward on an ad hoc basis, this new structure provides tailored packages to meet the Joint Force Commander’s specific requirements. In support of the EAF, the Air Force global command and control infrastructure allows high-fidelity operational support in near real-time from the continental United States. This revolutionary reachback capability lightens the load for mobility assets by reducing the amount of supporting forces required to deploy. With all 10 AEFs having deployed once during the last 15 months, the first EAF cycle is complete. The lessons learned from this rotation are being used to refine and improve the force’s expeditionary structure and concept of operations.

THE TOTAL FORCE

Simply stated, the Air Force could not perform its expeditionary mission without the contributions of its Air National Guard and Air Force Reserve forces. They contribute 71 percent of the tactical airlift, 67 percent of the strategic tankers, 62 percent of the strategic airlift, and a significant portion of other Air Force capabilities critical to its expeditionary capability. In addition to providing expeditionary support, the Air Force Reserve is the sole provider of unique capabilities such as aerial spraying and hurricane tracking, while the Air National Guard provides the nation’s airborne air defense capability. The seamless integration of the Guard and Reserve into the Total Force is a crucial step toward realizing the full potential of the EAF.

READINESS

Air Force readiness has declined by 23 percent since 1996. This overall decline is attributed to past underfunding of spare parts, a sustained high operations tempo, aging systems, and a less experienced workforce. Efforts to improve readiness have been at the expense of system modernization and infrastructure. Without a budget increase, aging systems, with their increased maintenance demands, will continue to siphon funds from modernization programs. Today, the average aircraft is approximately 22 years. Even with currently programmed procurements the figure will continue to increase, reaching 30 years by 2020. In order to support these aging weapon systems, selected high-priority avionics, engine, and structural modernization programs have been developed to extend their life cycles. Continued recapitalization of these systems is essential to ensure that the Air Force will be ready to meet any future challenges.

In FY 1999–2001, Congress, DoD, and the Air Force took specific actions to address shortfalls in spare parts. Six factors lead to the spare parts availability problems: constrained spares funding over several years; aging weapon systems; aggressive inventory reduction; high operations tempo; multiple changes in

logistics concepts; and two depot closures. To address these shortages, the Air Force, with help from Congress and the Administration, began an aggressive funding campaign to put spares back on the shelves. In FY 1999, the Air Force obligated an additional \$904 million to spare parts including: \$382 million for parts backlog; \$387 million to support Kosovo contingency operations (addressing both the spare parts surge during the conflict and reconstitution efforts); and an additional \$135 million for engine-related spares at the Oklahoma Air Logistics Center. In addition, across the FYDP, \$500 million for consumable aviation spare parts was added by the Defense Logistics Agency (DLA) to support all military spare shortages, and this should accelerate the spare parts recovery period. The Air Force remains cautiously optimistic that these recent funding plus-ups will arrest the decline in parts shortages and improve aircraft availability.

Consolidation of Air Force maintenance depots also contributed to the readiness decline. Complying with the 1992 Base Realignment and Closure decision, the Air Force reduced the number of depots from five to three, and the transfer of this workload created significant delays. During FY 2000, the workload transfer resulted in both a decline in mission capable rates and an increase in total Air Force not-mission capable hours (hours an aircraft is unavailable for mission related duties). The Air Force expects the negative trends to reverse as the workload stabilizes.

The Air Force also has been unable to invest adequately in infrastructure, including base operating support, real property maintenance, family housing, and military construction. Military construction supports the restoration and modernization of infrastructure, but limited funding has forced the Air Force to execute only its most urgent requirements, deferring most requirements to the unfunded outyears. In fact, the Air Force is now on a 250-year replacement cycle for its real property, versus an industry standard of 50 years.

SAFETY

The Air Force continues its aggressive safety program, improving its downward trend in aviation accidents. FY 2000 resulted in a record-breaking year across the spectrum of aviation safety. The navigation safety program, which will install collision and terrain avoidance systems on Air Force aircraft, promises to even improve upon this result. In ground safety, motor vehicle accidents continue to be the leading cause of airmen fatalities. While the loss of even one airman is disturbing, ground safety losses are well below the national average and below the rates of other organizations of comparable size.

THE BUILDING BLOCKS—MODERNIZATION OF CORE COMPETENCIES

The Air Force executes its mission through its inherent core competencies, which are not totally unique to the Air Force, but underpin its contribution to the nation's overall military capability. These core competencies are enabled by the Air Force's attributes of surveillance, speed, range, stealth, and precision. They are executed by the integration of people, platforms, weapons, bases, logistics, and supporting infrastructure. Leadership in these areas remains dependent upon a carefully linked requirements and acquisition process.

Balancing competing demands in a dynamic security and budget environment is a formidable task. Therefore, the Air Force has developed a responsible, time-phased approach that seeks to modernize

without sacrificing readiness. Its priorities are procuring the C-17, increasing C-5 reliability, upgrading conventional bombers and PGMs, developing new command and ISR systems, and modernizing the fighter (beginning with the F-22) and the tanker fleets. The fielding of relevant, capable space forces, with emphasis on the Space Based Infrared System (SBIRS), the Global Positioning System (GPS), the Evolved Expendable Launch Vehicle (EELV), secure communication satellites, and upgrading the space launch ranges are priorities that span all phases of this plan.

There is great risk associated with continuing to fund readiness, as noted earlier, at the expense of modernization. The average age of the Air Force fleet has never been as high as it is now, presenting a myriad of problems and costs. Near- and mid-term capability is at risk while sustainment costs rise, further draining Air Force accounts of needed procurement dollars. A significant and sustained boost in procurement funding is needed to reverse this trend and modernize the force structure. A description of each core competency modernization program follows:

AEROSPACE SUPERIORITY

Aerospace Superiority—the ability to control the vertical dimension so that the joint force has freedom from attack and freedom to attack—is the critical first step in achieving full-spectrum military dominance in all operations. In the 21st century, aerospace superiority depends increasingly on the rapid launch of space-based platforms with the seamless integration of strike platforms combined with space control capabilities. The new EELV partnership between military, civilian, and commercial agencies will meet spacelift requirements at a 20 to 50 percent lower cost than present systems. The first EELV commercial launch is scheduled for 2001 with the first government launch in 2002. SBIRS includes both high and low component satellites that will provide timely missile warning to national and theater commanders. The first SBIRS high component launch is set for 2004, and the program is on track for a low component launch during 2006. The F-22's attributes of stealth and speed will allow it to penetrate and destroy an adversary's anti-access capabilities, enabling other in-theater joint force actions. It should be operational in 2005 and is crucial to maintaining the current U.S. advantage in aerial combat. Concurrently, the airborne laser (ABL) is a boost-phase missile intercept system which will contribute to the nation's multi-layered theater missile defense architecture. In January 2000, the Air Force began modification of the 747 aircraft that will become the first of two ABL platform prototypes. This program is on track for a lethal demonstration against a theater ballistic missile in late 2003. Additionally, the space-based laser integrated flight experiment will determine the feasibility and utility of destroying ballistic missiles in the boost phase with directed energy. It is scheduled for an integrated test in 2008, with an Anti-Ballistic Missile Treaty compliant, on-orbit space test in the 2012 timeframe. Finally, as space becomes an ever more important area of vital national interest, space control will prove essential to achieving the force-multiplying effect of all space capabilities. Counterspace technologies, such as improvements to various ground-based sensors, development of a space-based space surveillance system, and refining the integrated command and control of all space assets will become increasingly important in the future.

INFORMATION SUPERIORITY

Information Superiority is the core competency upon which all others rely. Key to achieving information superiority is the ability to gain, exploit, defend, and attack information and information systems. It assures U.S. forces have a clear picture of the battlespace and can operate freely in the information domain, while denying the enemy the same ability. Integral elements include information-in-warfare (e.g., ISR, weather,

communications) and information warfare (e.g., electronic warfare, psychological operations, computer network attack and defense).

Currently, the Air Force's limited airborne ISR systems are stretched to satisfy an extremely high demand, making integration of these systems into the EAF challenging. The Joint Surveillance Target Attack Radar System (JSTARS) and the AWACS provide theater commanders real-time, wide-area surveillance of enemy ground and air movements. Three JSTARS aircraft will be delivered to the Air Force in FY 2001. The AWACS radar system improvement program, providing increased detection capability over the current system, is projected to achieve initial operational capability in FY 2001. UAV systems, such as Predator and Global Hawk, offer great promise in alleviating the shortage of airborne ISR collection assets. Global Hawk successfully completed a military utility assessment and is poised to move forward as a formal Air Force acquisition program with delivery of production vehicles in FY 2003. Congruently, space-based ISR assets will provide nearly continuous overflight of enemy targets to complement airborne and ground-based sensors. Space-based radar (SBR) is one of the most important military space capabilities the Air Force is researching. An operational SBR would provide worldwide ground surveillance which is not possible with current reconnaissance systems. The high cost of ISR modernization and the proliferation of information technology around the world make obtaining and maintaining information dominance a difficult, but essential, challenge to future military operations. Finally, the Air Force Chief of Staff hosted an Electronic Warfare (EW) Summit in July 2000 to reaffirm the Air Force's commitment to robust EW capabilities throughout the spectrum of operations. Summit initiatives included the development of an EW mission survivability concept of operations and an EW Roadmap to evaluate, direct, and prioritize future electronic warfare resources and requirements.

Military satellite communication systems, the Defense Satellite Communications System (DSCS) and MILSTAR, place powerful communication tools in the hands of battlefield commanders around the world, enabling information reachback to the continental U.S. and continuity with the NCA. The first DSCS III Service Life Enhancement Program (SLEP) satellite, launched in January 2000, doubled military wideband communication capacity to tactical users over legacy DSCS III satellites. The MILSTAR constellation will continue to grow to meet operational requirements with a third operational satellite projected to begin providing jam-resistant communication for tactical operations in February 2001.

PRECISION ENGAGEMENT

Operation ALLIED FORCE demonstrated that theater commanders must have the ability to precisely strike targets in adverse weather conditions while minimizing risk and collateral damage. The Air Force's new generation of guided weapons uses GPS coupled with inertial navigation systems to put bombs precisely on targets, day or night, in nearly all weather conditions. The Joint Air-to-Surface Standoff Missile (JASSM), Joint Standoff Weapon (JSOW), Joint Direct Attack Munition (JDAM), and Wind Corrected Munitions Dispenser (WCMD) are among the Air Force's high-priority precision engagement programs. The JASSM is currently undergoing engineering and manufacturing development flight-testing and is scheduled to enter operational service in 2003. JDAM became operational in 1999; JSOW and WCMD achieving operational status in 2000.

GLOBAL ATTACK

Global Attack assets allow the nation to successfully conduct military operations across the spectrum of conflict. The Air Force's legacy fighters, including the F-15, F-16, and A-10, provide a potent mix of air-to-air and air-to-surface capability. However, these aging platforms are growing more expensive to maintain and operate, while their combat effectiveness has eroded compared to current and emerging threats. The Joint Strike Fighter program will field an affordable, highly common family of next-generation strike fighter aircraft for the Air Force, Navy, Marine Corps, and America's allies. The Air Force bomber force will gain increased lethality and improved survivability through the integration of precision strike and enhanced electronic combat capabilities. B-1 and B-52 upgrades include final integration of the JDAM, JASSM, JSOW, and WCMD delivery capability combined with communications, avionics, situational awareness, and defensive system upgrades to ensure their lethality and survivability. The Air Force is also applying lessons learned from Operation ALLIED FORCE to the flexible targeting and electronic connectivity of the B-2 using Link-16 and voice connectivity through UHF satellite communications. Finally, the Air Force is committed to integrating the MK-82 500-pound JDAM on the B-2, enabling this aircraft to strike up to 80 different targets per sortie.

Modernization efforts for the Minuteman III ICBM, Air-Launched Cruise Missile, and Advanced Cruise Missile are crucial to ensure the viability of these systems through 2020. However, START II uncertainty continues to pose a challenge for Air Force planning and programming. Limited funding support for the ICBM force has rendered near-term Peacekeeper sustainment difficult and Minuteman III modernization uncertain. The deferral of treaty ratification, combined with an unmet requirement for additional funding for the ICBM force, could cause eventual degradation of these missile systems. However, a capable and credible nuclear force remains essential to deterring an enemy's use of NBC weapons against the United States or its military forces.

RAPID GLOBAL MOBILITY

Rapid Global Mobility ensures the nation can respond quickly and decisively anywhere in the world. The C-17 is the flagship of the Air Force's modernization program, while C-5 upgrades improve reliability, maintainability, and availability of these transports. Modernization of the tactical airlift fleet is being accomplished by acquiring new C-130J aircraft to replace older C-130Es and through upgrading the remaining C-130s with the Avionics Modernization Program (AMP). Procuring the Next Generation Small Loader (NGSL) will complement the Tunner (60K) loader by supporting intra-theater mobility operations at forward and smaller bases. The procurement of 50 CV-22s will provide both a heavy vertical lift capability and a lighter mobility footprint for Air Force Special Operations Forces. Finally, tanker modernization efforts include KC-10 and KC-135 avionics, navigation, and safety enhancements.

To meet tomorrow's challenges, the Mobility Requirements Study 2005 (MRS-05), an update to the 1995 Mobility Requirements Study and Bottom-Up Review, determined future mobility requirements to meet the current National Military Strategy (NMS). An analysis of alternatives regarding oversize and outsize mobility aircraft will determine the most cost-effective airlift fleet mix to meet the MRS-05 recommendations. Additionally, the Tanker Requirements Study for 2005 (TRS-05), baselined from MRS-05, will forecast future tanker requirements. With the KC-135 average fleet age at 40 years with operations and support costs rising, recapitalization of the tanker fleet is crucial.

The Spacelift Range System (SLRS) Modernization Program, also known as Range Standardization and Automation, is replacing and standardizing unreliable and inefficient equipment on the Eastern and Western launch ranges. This program is improving range efficiency and reducing operation costs. The congressionally-directed National Launch Capabilities Study confirmed that the SLRS modernization program, coupled with the EELV program, would provide the efficiencies and capacity necessary to support future launch demands for national security and commercial payloads. By FY 2006, the SLRS modernization effort is on track and scheduled to deliver the automation and standardization required for reducing range reuse times—from days to hours.

AGILE COMBAT SUPPORT

The success of the EAF ultimately rests on the Air Force's ability to establish and sustain forward operations. Enhanced beddown planning, improved expeditionary engineering capability, responsive resupply, reachback access to stateside organizations, and increased reliability and maintainability eliminate the need for large deployed inventories, reduce the required support footprint, and free up critical airlift. Information technologies, such as the Air Force portal in the Global Combat Support System will also provide real-time situational awareness and continue to enhance service support for the warfighter.

THE APPROACH—INNOVATION AND ADAPTATION

The Air Force has a proud heritage of innovation and adaptation. Innovation and adaptation are more than inserting technology into the force. They involve the commitment to the continual renewal of aerospace operations, capability, and structure to provide the nation the most effective return on its investment. Therefore, the Air Force is streamlining its procurement process and business practices by capitalizing on private commercial technological developments and studying and fielding new methods to rapidly apply new technologies.

EXPERIMENTATION AND WARGAMING

The Air Force conducts experiments and wargames to evaluate current and future aerospace capabilities. The Joint Expeditionary Force Experiment 2000 is a large-scale, bi-annual exercise to evaluate innovative initiatives in a realistic combat scenario. This year's experiment focused on improving ways to integrate support functions into expeditionary operations and test new procedures and technologies in order to conduct time-critical targeting. In June 2000, Global Engagement V examined alternative force structures 10 to 15 years in the future and demonstrated the continued importance of assured access to operational areas of responsibility. Finally, in 2001, the Aerospace Future Capabilities Wargame will influence and shape Air Force strategic direction by testing alternative concepts, systems, and force structures 20 to 25 years into the future.

BATTLELABS

The Air Force battlelabs have a mission to rapidly identify and assess innovative operations and logistics concepts. The six current battlelabs are the Air Expeditionary Force Battlelab, Command and Control Battlelab, Force Protection Battlelab, Information Warfare Battlelab, Space Battlelab, and Unmanned Aerial Vehicle Battlelab. A seventh battlelab, recently commissioned, will focus on air mobility. This year, battlelab initiatives have included application of commercial scheduling software for the Air Force

Satellite Control Network; telecommunications firewalls for base phone systems; aircraft inspections with digital x-ray equipment; and the use of speech recognition to reduce mission planning time.

SCIENCE AND TECHNOLOGY

The Air Force is investing in a broad and balanced set of technologies to advance core competency capabilities well into the future. It is focused on basic research in areas such as propulsion, fuel efficiency, weapon system durability, munitions effectiveness, and unmanned flight vehicles. Applied and advanced research in micro-satellites, hyper-spectral sensors, global battlespace infosphere, and information operations will help secure information superiority for the future warfighter. In addition, advanced technology development in directed energy, time-critical targeting, and terminal guidance for small smart munitions will help assure the critical future capabilities of precision engagement and global attack. The science and technology challenge remains to adapt to the faster pace of technology introduction, the widespread proliferation of high-tech products, and concept affordability.

PLANNING, PROGRAMMING, AND BUDGETING SYSTEM REFORM

The Air Force Resource Allocation Process is being reengineered to link strategic planning, requirements generation, programming, and budgeting throughout the resource allocation process. This new process will also have a more rigorous and consistent analytical underpinning. During the implementation of the FY 2003 Amended Program Objective Memorandum process, Air Force major commands will be given an explicit slice of total obligation authority with the flexibility to program the funds to best meet requirement priorities. This approach will also improve accountability and visibility for Air Force resource requirements as they undergo DoD and Congressional review and funding decisions.

INFORMATION TECHNOLOGY REFORM

In 2000, the Air Force created and filled the new position of Principal Deputy Assistant Secretary for Business and Information Management. This senior executive is responsible to the Air Force Chief Information Officer for standards, architecture, oversight of information technology (IT) budgets, and business process reengineering. Commercial industry has found tremendous savings via network-centric solutions by placing applications on the Internet for desktop access. By leveraging these initiatives, for example, the Air Force developed a virtual internet tool to allow all personnel to monitor and make personnel record changes on their own through the Internet. The Air Force is also developing an Air Force-wide portal and an Air Force white-pages directory, consolidating major command level electronic-mail servers, and reengineering organizational structures and concepts of operations for future IT enterprises and contracting.

ENVIRONMENTAL CLEANUP

The goal of the Air Force's environmental cleanup program is to protect human health and the environment while using safe and cost-efficient methods to remediate and close out installation restoration program sites. The Air Force completed 64 percent of its total site requirements and met its first defense planning guidance goal in 1999, three years early, by having remedies in place for over 50 percent of its high relative risk sites. The Air Force is improving interagency communication by conducting regular partnering meetings with state, regional, and federal environmental protection offices and local communities impacted by the cleanup program. The Air Force believes communication and cooperation are key to the success of these environmental cleanup initiatives.

THE COMMITMENT

The Air Force will provide the nation an integrated full-spectrum expeditionary aerospace force, using surveillance, speed, range, stealth, and precision to deliver maximum effects with minimum risk. The Air Force will recruit and retain the best people—the foundation of current readiness and combat capability—and provide them the quality of life and service they deserve. The Air Force will achieve aerospace dominance through the seamless integration of its air, space, and information systems by providing trained-to-task, tailored expeditionary forces that are lighter, leaner, and more lethal for the Joint Force Commander. However, the Air Force must recapitalize its bomber, tanker, lift, missile, CSAR, space, ISR systems, and infrastructure, while leveraging evolving technology and new operational concepts to control the growing cost of readiness. The Air Force is a partner in America’s national security and has made these commitments to keep faith with the men and women of America’s Air Force as well as the nation.