在日米軍の削減可能性を探る研究

A TRANSFORMATION STRATEGY

Today, national security leaders face a challenge that is unprecedented: transforming the armed forces into a very different kind of military from that which exists today. Simultaneously, national security leaders must sustain the military's ability to play a very active role in supporting U.S. near-term efforts to preserve global stability within a national security strategy of engagement and enlargement.

Why the need for a transformation strategy? Defense enters this era of geopolitical and military-technical transformation within an environment of declining resources. There is the risk that if the wrong transformation course is chosen (or if no attempt is made to transform), the Department of Defense will find it difficult, if not impossible, to buy its way out of its mistakes. Moreover, it is important to begin the transformation process soon, since decisions made in the near-term will influence the shape of the military over the long-term. Put another way, it is no exaggeration to say that the U.S. military twenty years hence is already being formed by decisions being made today.

Consequently, the Defense Department should accord the highest priority to executing a transformation strategy for the U.S. military, starting now. The Department should begin by recognizing that revolutions in military affairs are characterized by an increased risk of strategic surprise, such as occurred with submarine warfare early in this century and which might occur again with the onset of information warfare, competition in space, and the changing character of power projection.

For a start, the military services will have to tap into rapidly advancing technologies to develop new military systems that can be applied within the framework of new operational concepts executed by new kinds of military organizations. It is this combination of technology, emerging military systems, new concepts of operation and force restructuring that often produces the discontinuous leap in military effectiveness characteristic of revolutions in military affairs. Greater emphasis should be placed on experimenting with a variety of military systems, operational concepts, and force structures. The goal would be to identify those that are capable of solving the challenges that emerge or that are capable of exploiting opportunities—our asymmetric advantage—and to eliminate those which are not. The end result would find the U.S. military having created strategic "options" on a range of military capabilities. These options could be used both to dissuade prospective competitors from undertaking aggressive military competition and, in the event dissuasion or deterrence fails, to exercise one or more of these options to prevail in such a competition.

Transformation will take dedication and commitment—and a willingness to put money, resources, and structure behind a process designed to foster change. Most of all, it will take wisdom to walk the delicate line between avoiding

premature decisions and unintended "lock-in" with equipment purchases, operational concepts, and related systems whose effectiveness may erode precipitously in a rapidly changing conflict environment. Choosing the right alternatives, as threats become clear and technology proves out, must be the goal.

Effecting a military transformation will require a much greater role for jointness. It may also encompass greater competition among the military services, not less. Congress and many military reformers have decried—in many cases, quite rightly—the amount of overlap and redundancy that exists among the four military services. However, competition among the services can assist in determining how best to exploit new capabilities, or how to solve emerging challenges. This kind of competition should be encouraged. In the case of the power projection challenge, for example, it is not clear whether the solution is to be found in Air Force long-range precision strikes; strikes from a Navy task force composed of a "distributed" strike force—carriers, arsenal ships and Trident "stealth battleships" fitted with hundreds of vertical launch systems for long-range precision guided missiles; Army forces employing long range missiles and weaponized, unmanned aerial vehicles; Marine "infestation" teams calling in long-range precision fires; integrated theater missile defenses; or a combination of these capabilities, or perhaps something quite different—all linked by a global command and control information architecture relying heavily on our assets in space.

What emerges from earlier periods of transformation, whether it be the development of naval aviation, or the exploitation of ballistic missiles, is that they take a considerable amount of time, at least a decade, and often closer to two, to play out. Indeed, even those military systems that today are placed on a "fast track" for development and fielding often take ten years or more to reach forces in the field. Additional time is required to determine how best to employ the new military system, and to make the appropriate adjustments in the force structure. If that is the case, then senior Defense Department leaders must begin now to develop and execute a transformation strategy to prepare for the very different kinds of challenges they see confronting the armed forces over the long-term future.

The issue of how to fund this transformation must be addressed. In this fiscally constrained environment, there are significant risks to the Quadrennial Defense Review's (QDR) goal of $60 billion for modernization funding. In its review of the FY98 Future Years Defense Plan (FYDP), the General Accounting Office (GAO) found that the Defense Department has not met its procurement goals for the fourth straight year. There are several reasons that indicate this trend is likely to continue. The increase in Operations and Maintenance (O&M) spending coupled with the decreasing size of the Defense budget has "crowded out" procurement spending. The migration of procurement funds to pay for cost overruns and increased OPTEMPO continues, exacerbating the procurement shortfall. Additionally, Congress's unwillingness to approve any further base

closure rounds has created additional risk to Defense's future ability to fund procurement efforts through infrastructure reform.

Acquisition reform is helping the Department meet its funding problems, but most savings have been used to meet needs of current programs, indicating that few funds will be available for other programs. New acquisition programs have been aggressively budgeted, counting on acquisition reform, making additional savings unlikely. As a result, Defense's ability to fund the QDR force is at risk. While continuing to reduce infrastructure and achieve greater efficiency in the acquisition process is necessary, it is not clear that it will be adequate to provide the requisite resources to fund the transformation to a force equipped and organized to handle the challenges of 2010–2020.

The Panel estimates an annual budget wedge of $5 to 10 billion will be required to support this transformation strategy. This money funds such initiatives as intelligence, space, urban warfare, joint experimentation, and information operations. In the absence of additional defense funding, the transformation could be funded by infrastructure and acquisition reform, reducing the operational tempo associated with non-warfighting activities, canceling acquisition programs, or reducing force structure and end strength. There will be no easy answers, and difficult choices must be made. Some near-term investment challenges must be solved to ensure we can provide the necessary resources.

In this final section of our report we address several recommendations for how we can begin the transformation of our security structure from where we are today to where we need to be in the future. Our outline for this process involves a wide variety of issues and subject areas. First we articulate the need for a broad national security approach to include a review of how we approach and incorporate our allies; the increasing importance of our intelligence community, particularly human intelligence (HUMINT) and analysis; and the need for a much stronger and more effective interagency process. Second, we believe that a formal system of experimentation within the Defense Department must be implemented. Third, we propose revisions to the Unified Command Plan. Fourth, we discuss the need to transform the industrial base. Finally, the Panel recommends that the Defense support structure and infrastructure be fundamentally reformed.

A BROAD NATIONAL SECURITY APPROACH

The National Security Act of 1947 codified the transformation of the United States from an isolationist power to the world's preeminent global power. It created the National Security Council, the Department of Defense, the Central Intelligence Agency, the U.S. Air Force, and the Joint Chiefs of Staff. The Act's organizational changes reflected America's conscious decision to bear the mantle of global leadership in the coming Cold War.

The challenges the United States will face in the twenty-first century differ substantially from those of the Cold War. The collapse of the Soviet Union and the demise of the Warsaw Pact changed the major fault lines of the international political system. At the same time, an ongoing technological revolution has restructured global politico-economic patterns and promises to alter dramatically military operations and the character of warfare. Increasingly sophisticated weapons promise to proliferate advanced warfighting capabilities to anyone with the money to buy them. Existing and emerging security challenges are occurring in an international environment where commercial, financial, cultural, and communication links often transcend geographic borders.

> ***NATIONAL SECURITY STRUCTURE***
>
> *National Security Act of 1947 provided legislative basis for the Cold War, BUT...*
> *opportunities and challenges of twenty-first century will be very different than those of the Cold War*

New national security interests—especially those dealing with space, are vulnerable to attack by other than military means and must be protected. The lines between domestic and foreign policy, intelligence and information, political and economic agendas, and military and law enforcement activities will become increasingly blurred. Many emerging challenges respect no national boundaries and require international cooperation to resolve.

> ***NEW NATIONAL SECURITY CHALLENGES***
>
> - *Vulnerable to unconventional attack*
> - *Blurs military/law enforcement line*
> - *Respects no boundaries*
> - *Requires international cooperation*

New technologies have diminished the importance of geographic distance but increased the importance of time—and, consequently, the ability to respond quickly to emerging problems. In such an environment, being able not only to respond, but also to anticipate and to defuse problems before they reach the point of conflagration, will be more important than ever before to our national security. Today, American military forces aid cholera-infected refugee camps; Marines and National Guardsmen intercept illegal drugs on America's southwestern border; and uniformed Americans separate the warring parties in the Balkans while diplomats, businessmen, and private volunteer agencies try to restore political

order. The future promises to present our national security structure with similar challenges.

We must assume that we are vulnerable to a variety of threats—both military and non-military in nature. We must find a variety of means to foster the resolution of conflicts, preferably before they occur. High on our list must be a way to achieve some measure of control over the proliferation of weapons of mass destruction. To some degree—with Russia, the new independent states, and North Korea—we have made some progress in this regard. But this agenda of "preventive defense" needs further articulation and expansion.

Although the security challenges we face are more diverse, and complex international operations are becoming the norm for our defense forces, our policy-making institutions remain largely as they were during the Cold War. They are largely reactive, highly compartmentalized, inwardly focused on their own missions, and only loosely connected to one another. The national security apparatus established fifty years ago must adapt itself as it takes on a growing list of new challenges and responsibilities. It so far has been unable to integrate smoothly the resources and organizations needed to anticipate and mold a more secure international environment. It has yet to take full advantage of new technologies and the contributions that nongovernment organizations, including businesses and private voluntary groups, and our allies and friends around the world, can make to national security.

> *NATIONAL SECURITY STRUCTURE*
>
> *Funding shortfalls and coordination gaps among U.S. government agencies impede U.S. crisis response*

This broader approach to national security must look at the best way to change and integrate alliance structures, the intelligence structure, and the interagency process to better employ our forces and capabilities to meet the challenges of the future.

Alliance Structures

Our Cold War alliance structure served the United States well in countering the strategic threat posed by the Soviet Union. Historically, the United States expects certain things from alliances—legitimacy and reliability (political as well as military), augmentation of our military capability, access to forward bases, host nation support, and the benefits of pooling manpower and sharing technology, production capacity, and intelligence information. While these expectations remain, the demise of the Soviet Union and the diffusion of traditional alliance interests raise fundamental questions about the future of U.S. alliance relationships.

> *ALLIANCES*
>
> *Regional stability through regional partnering*

The Panel believes alliances will continue to be a vital component of U.S. security in the future, notwithstanding our need to maintain some capability for unilateral military action. Future "alliances," however, will be different from those of the Cold War. The internal relationships, geographic focus, and formal structures of alliances must adapt to a new security environment defined by changes in the geopolitical situation, military capabilities, and economic circumstances.

The ongoing geopolitical transformation of the post-Cold War world, while greatly diminishing the overarching, global threat posed by the Soviet Union and the uncertainties about Russia's future direction, has generated diffuse regional threats, some of which may coalesce into major regional opposition to U.S. interests. At the same time, the absence of a major, clear, and common threat may weaken the basis for the relative stability of past alliance structures. Without the perception of real danger to mutual national survival, the commitment to collective defense could be diluted to the level that existed during the League of Nations.

Closely linked to the new geopolitical landscape are changing military realities. Militaries are transforming themselves and thus creating uneven and divergent capabilities even among traditional allies. Communication and other interoperability requirements may become increasingly difficult, even while coalition operations (or operations stemming from ad hoc alliance structures) become more prevalent. The U.S. military will have to seek new avenues for interoperability training with an increasing number of actual and potential allies.

These changes in alliance structure will likely occur in an increasingly resource-constrained environment. In the past, the United States could afford to underwrite any alliance. Although the U.S. economy is still the strongest in the world, our share of global wealth relative to that of our major allies has declined significantly since the early days of the Cold War when our current alliances were formed.

As a result, fiscal burden-sharing will play a greater part in defining our multilateral and bilateral relationships. International arms cooperation can help promote this trend and will also help promote efficiencies in an era of constrained defense budgets. Closer links between the United States and overseas defense and aerospace corporations, especially with those in Europe, can serve both our interests and those of our allies.

> *ALLIANCES*
>
> *International arms cooperation encourages and complements coalition activities*

But the United States must move beyond traditional alliance structures if it is to meet new security challenges effectively. Although we will maintain and

enhance our long-term, formal alliances, other alliance-like structures will likely become the operational norm.

Alliance-like structures—often called "coalitions of the willing"—will be temporary and their formation ad hoc. Their creation may improve U.S. access to a region but will not necessarily increase U.S. presence. Ad hoc coalitions will come in different forms. For example, in the Gulf War and recent humanitarian operations in Africa, coalitions were created in the absence of an existing regional alliance structure. The Bosnian experience generated special arrangements to incorporate Russian forces into a NATO-orchestrated operation. Another alternative to traditional alliances is bilateral or regional agreements outside of formal alliances, such as those used to combat narco-terrorists in Latin America. Cooperation with transnational commercial organizations may serve as an entirely new avenue for increased regional stability. The effectiveness of many, if not most, of these approaches depends on a deliberate effort to work with prospective allies and coalition partners before crises unfold. Only then can the foundation for successful operations be in place.

As the formal alliance structures of the past evolve, our ability to operate with formal allies or ad hoc coalition partners, or to cooperate with nongovernment or international organizations, will depend increasingly on professional relationships at all levels. To develop these relationships, we must create more opportunities for our military forces to work with allies and potential coalition partners before crises develop.

As we consider the changing character of alliances in the future, we must not lose sight of their purpose: they must improve not only our security, but also the security of our allies. It cannot be a one-sided relationship. An alliance works where there is mutual trust and commitment and willingness to sacrifice for common goals. Not understanding this concept has led some nations in the past down a path to defeat and destruction. In international relations, altruism works best when instigated by self-interest.

The Intelligence Structure

The new and broadened difficulties that will confront intelligence collection over the next twenty years are greater than ever before. The task facing the United States is to determine the intelligence requirements in the world of 2010–2020. In a general sense, we will need the same types of information we use today. We will still want to answer what, where, when, how, and why—the more detailed and accurate the answer, the better. However, the security environment of 2010–2020 will change the context of these questions.

The United States will not have the luxury of focusing most of its intelligence assets on a single threat, as it did in the Cold War. Disparate threats and geopolitical shifts will produce uncertainty and diffusion of effort.

Intelligence collection and analysis must also cover Third World countries. Frequently these are the countries where U.S. forces are called for humanitarian or peacekeeping missions, and where protection of our forces will become increasingly more difficult. At the same time, our national priorities will constantly change as new crises and competitors emerge. As a result, we will need to anticipate threats from a multiplicity of sources even as we deal with a host of current concerns.

Asymmetric threats will be particularly difficult to guard against. Transnational problems and the proliferation of advanced technology and weapons of mass destruction will further exacerbate the difficulty of isolating and tracking various threats. A dramatic decrease in our ability to provide decision-makers or potential victims with adequate warning could result. With American citizens increasingly exposed at home and abroad, such a shortfall could be disastrous.

Advances in information technologies may be a double-edged sword in this new intelligence environment. Improved information systems offer intelligence structure benefits that could significantly increase our ability to produce the necessary intelligence. These systems offer better ways to acquire, analyze, and disseminate information, thereby reducing uncertainty and allowing more timely and accurate decisions at all levels.

Yet, information technology has serious vulnerabilities. Our reliance on these systems makes them attractive targets for deceptive information. Also, we risk becoming over-reliant on this intelligence tool and the sheer volume of information creates the possibility of information overload if the proper filters are not in place. Leaders at different levels need corresponding amounts of detail. Too much or the wrong type of intelligence to the wrong person can paralyze or mislead decision-making.

The Panel believes that certain changes to our intelligence structure and capabilities are necessary if we are to leverage intelligence means and information. Timely dissemination of accurate and complete information to the warfighter is key. Improvements can be made in the collection, processing, analysis, and dissemination of intelligence.

First, the intelligence process must include integrating technologies (especially space-based capabilities), reducing the overlap in intelligence efforts among agencies (without sacrificing the redundancy necessary to safeguard capability), eliminating artificial bureaucratic boundaries that debilitate the dissemination of information, and allowing for surge capacity in times of multiple crises. Beyond lowering barriers among our own agencies and departments, we must consider how to share data with nations beyond traditional alliance structures. Our intelligence relationships abroad should reflect the realities of

today and tomorrow, rather than relying solely on relationships that served us well in the Cold War and before.

Along with improved data sharing, our intelligence structure must use the best technology available to create nodal links that disseminate information and facilitate analysis. These information filters must then aid in analyzing raw data, and information must be archived digitally so that users can easily and rapidly retrieve it. At the same time, the proliferation of this technology to potential enemies promises to increase the difficulty for our collection efforts.

Second, we must improve our ability to collect against technically sophisticated targets. Measurement and signature intelligence (MASINT) will be critical to our understanding of WMD proliferation in the twenty-first century.

Third, we must determine what space, air, maritime, and land-based platforms will best accomplish specific intelligence collection missions. Commanders must be confident about having access to intelligence generated by systems they do not control. At the same time, we must ensure that those assets are reliable and available.

Finally, considering the range of tools available to the United States to cope with intelligence requirements over the next twenty years, the Panel underscores the critical importance of revitalizing human intelligence (HUMINT) to include the need for military personnel with extensive regional knowledge and language skills. Given our lack of experience in and knowledge about certain countries, regions, and groups, HUMINT can provide local data that may prove to be crucial, particularly in helping our leaders understand the intent behind capability. The effective use of HUMINT will help our leaders take the appropriate actions to diffuse conflict and promote regional stability. If conflict should occur despite our best efforts, then HUMINT will complement our other means of intelligence to assist commanders in conducting operations rapidly and decisively.

Revitalizing HUMINT requires the United States to invest in robust capabilities. Such capability will not be achieved overnight; the skills and relationships necessary for effective HUMINT take years to develop. This long lead-time underscores the urgency of defining the requirements and meeting them now.

The Interagency Process

The ability to anticipate and shape changes in the international environment requires a forward-looking national security strategy and effective organization for implementing it. This in turn requires a high degree of integration of resources and political commitment. To make such changes will require significant alteration in the current national security apparatus and the way we do business today. Among the changes that need to be made toward that goal are:

- Undertake a thorough national security strategy review to determine if existing structures and procedures are appropriate to twenty-first century needs. The "21st Century Security Strategy Group," established in H.R. 2266, is an important step in this direction;

- Expand the statutory members of the National Security Council to include the Secretary of the Treasury and the Attorney General;

- Create an interagency cadre of professionals, including civilian and military officers, whose purpose would be to staff key positions in the national security structures. Such a cadre would be similar in spirit to the "joint" experience envisioned by the 1986 Goldwater–Nichols Act. Attention should be given to their education, development, and career development. A certain number of "interagency" slots should be identified within the national security community, including domestic agencies that have foreign affairs responsibilities (e.g., Justice, Commerce, Energy) and staffed by the interagency cadre. Assignment of allied and other foreign nationals from countries with whom the United States has security cooperation arrangements should also be considered on a reciprocal basis;

- Establish a national security curriculum, combining course work at the National Defense University and National Foreign Affairs Training Center, with a mix of civilian, military, and foreign students to receive training and education in strategic affairs;

- Establish a fully integrated national crisis center to consolidate foreign policy, intelligence, military representatives, and domestic agency personnel, including liaison with state and local authorities; it should include "hotline" links to allies and major regional powers, international organizations, and nongovernment organizations;

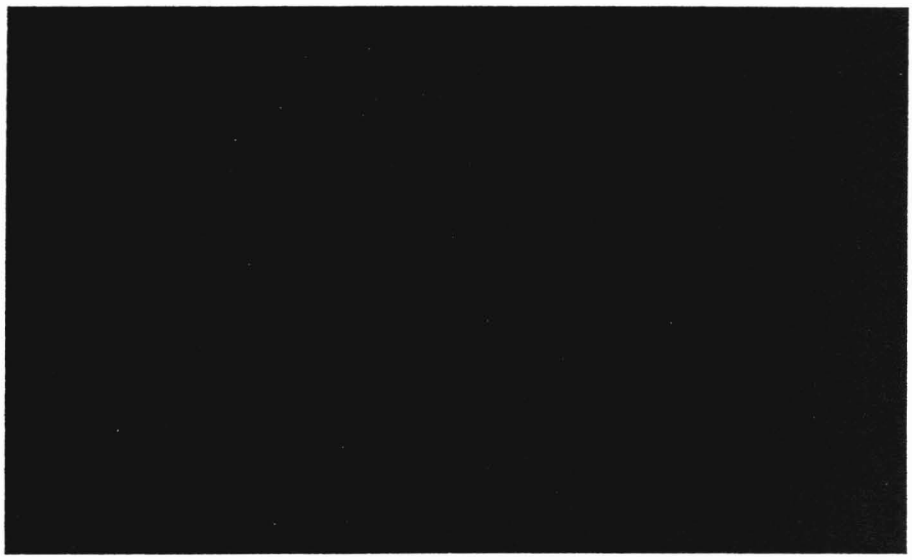
- Develop a unified, multimedia communication system (both secure and unclassified) to overcome the lack of interoperability of today's systems. Such a system would facilitate the real-time exchange of information necessary for decision-making and coordination in the

complex security environment of the future. Plan to extend that system to local and regional domestic government agencies as well as to key allies;

- Improve coordination between State and Defense Department geographic and functional bureaus and unified commands to harmonize and integrate regional coverage and policy implementation;

- Modify current legislation to streamline the transfer of funds within and among agencies in the national security community, allowing decision-makers to provide resources to the agency or agencies best suited for the task;

- Establish an interagency long-range, strategic planning process to ensure the long-term consequences of near-term decisions are taken into account. The process should be supported by long-range strategic planning cells in the National Security Council staff, the Departments of State and Defense, and other relevant departments and agencies.



INSTITUTIONALIZING INNOVATION, EXPERIMENTATION, AND CHANGE

Far from complete, the broad inquiries into the character of future conflict being pursued by a number of agencies and service components suggest that there are fundamental changes on the horizon that need to be understood. Conflicts in the infosphere and space, for example, will have dramatic impacts on traditional means of conventional combat. These impacts, as well as others mentioned in this Report, cannot be separated from the considerations of conducting future wars.

We can try to understand the future through a variety of approaches. We have already begun extensively to "wargame" (i.e., "play out" different and random scenarios in a conference-type atmosphere) the future. But some things can only be revealed in "the field." Practical experimenting allows us to experience what may only be theorized at the discussion table. It is only through field exercises, primarily joint in nature, that we can adjust and iron out problems before they occur in actual combat.

It is possible to explore future concepts now, using well-planned and resourced exercises, surrogate and real technologies, and advanced distributed simulation. Although each service may be interested in doing experiments to examine its own role in the future, the real leverage of future capabilities from experiments is in the joint venue.

This type of experimentation and follow-through will only be found in an energetic and innovative laboratory that tests operational concepts, doctrinal innovations, and new forces and equipment in a field environment under realistic conditions. As discussed in the following section on the Unified Command Plan, the Panel recommends the creation of a Joint Forces Command, which would be given appropriate resources, requirement authorities, and forces (detailed by the individual services) and expected to create challenging scenarios and regular field exercises conducted under the aegis of a Joint Battle Lab. The Joint Battle Lab would be subordinated to the Joint Forces Commander.

- At the head of this institutionalized experimentation process would be an accountable Joint Battle Lab headquarters.

- Exercises would take place at joint national training centers—part of which would be a Joint Urban Warfare Center—accommodating all of the services.

INSTITUTIONALIZING CHANGE

- *Joint field tests essential*
- *Joint Forces Command responsible*
- *Joint Battle Lab headquarters established*
- *Integrate service battle labs*
- *Establish joint national training centers*

- The exercises, utilizing scenarios developed by a Joint Concept Development Center (JCDC), would be based on the emerging challenges of 2010–2020 identified by the Panel. The staffing of JCDC and joint battle labs should be under the same parameters that identified the Joint Staff Officers in Title IV of the Goldwater–Nichols Act. The JCDC would monitor exercises, to include determining new measures of merit (or effectiveness) for forces engaged in such exercises. The JCDC would also evaluate the adequacy of current analytic methodologies, models, and simulations. This would address a serious shortcoming identified by the Panel in its report on the Quadrennial Defense Review.

Maximum use should be made of the services' battle laboratories. Current joint warfare centers—the Joint Warfare Analysis Center (JWAC), the Joint Command & Control Warfare Center (JC2WC), the Joint Warfighting Center (JWC), and the Joint Doctrine Center (JDC)—would report to the Joint Forces Commander.

These centers would assist in the development of scenarios, new strategies, task force objectives, and desired outcomes, measures of merit/effectiveness, analysis of experimentation results, and the development of follow-on experiments. Furthermore, regional unified commanders-in-chief (CINCs) and the Joint Chiefs should endorse cross-service cooperation and the use of service battle labs, test ranges, development laboratories, and training facilities, where possible, to advance the joint warfighting effort.

The Joint Forces Commander would submit an annual report to the Secretary of Defense detailing the conduct of joint exercises, including their number, forces involved, the operational challenges they faced, the exercise results, and the effect of the exercise on the transformation process, to include recommended changes in force structure, doctrine, and resource allocations.

These recommendations do not seek to limit individual service innovation in any way. Such service-specific innovation is a key component of the military's transformation strategy. For example, the services would experiment with such weapon systems as the arsenal ship, which, once certified, would be tested in the broader joint arena. The Joint Forces Command and the associated steps recommended above offer a systemic, joint environment in which to develop the integration of all of the components of a joint campaign.

The U.S. military today has a commanding advantage in military capability. But in a period of great geopolitical and military–technical change and uncertainty, it is far from clear that this advantage will be sustained over the long term. If, as seems likely, we are in the early stages of a revolution in military affairs, it will yield new challenges for the U.S. military and new opportunities. A

successful transformation strategy must provide for frequent and large-scale (i.e., at the operational level) experimentation in potentially new ways of war, effecting meaningful and appropriate change in operational concepts, force structures, military systems, and budgets.

The Panel believes that the Secretary of Defense should consider providing MFP 11-type authority to ensure the Joint Forces Commander's ability to support the experimentation program.

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TRANSFORMING THE UNIFIED COMMAND PLAN

The Panel's concept of transforming our forces to address challenges during the next twenty years will require institutional and organizational changes. Recognizing the need to maintain regional stability, defend the territorial integrity of the United States, and exploit new warfighting capabilities, the Panel recommends changes to the Unified Command Plan. They include significant changes to the functional commands to incorporate new mission capabilities and some restructuring of the geographic commands.

In its 1995 report, the Commission on Roles and Missions of the Armed Forces recommended key underlying principles to guide the Unified Command Plan. They included the ideas that geographic responsibilities should correspond to the strategic interests of the United States; that sufficient land, air, and sea area be included in each geographic command to allow the commander the means to meet his responsibilities; that the distinctions between geographical and functional commands be maintained; and that no seams exist that might split areas of strategic interest. The National Defense Panel endorses those principles and used them to determine its recommendations for realignment of the commands.

The Commands would be adjusted as follows:

- **Strategic Command** would continue to meet its current responsibilities as long as nuclear forces remain an essential element of our strategy.

- **Special Operations Command** would continue to perform critical missions to maintain global stability and counter evolving challenges by transnational threats, including weapons of mass destruction. We expect a modernized Special Operations Forces will play a key role in containing the transnational threats to U.S. interests, both at home and abroad.

- **Joint Forces Command** would be the common force provider of combat-ready forces to all other commands for joint and combined operations. This command would be responsible for the force readiness and training of all active and reserve components based in the United States. This command would be responsible for developing and validating joint doctrine for the approval of the Joint Chiefs; conducting joint experimentation; directing joint battle laboratories; and overseeing other joint innovation and experimentation efforts described elsewhere in this Report. The Joint Forces Command is responsible for all joint modeling, simulation, analysis, and concept development. The command is responsible for driving the transformation process (joint requirements approval) for U.S. forces. Since Joint Forces Command provides forces to all other commands, it

must ensure that the provided forces possess the appropriate cultural and political awareness of the specific regions to which they will be deployed.

- **Logistics Command** would provide global logistics, transportation, and asset visibility operations. This command would improve our ability to more rapidly project forces with smaller logistic footprints, to leverage industry innovations, and to improve and reengineer business practices. This command, providing common supply items, global distribution, and transportation services, would integrate the transportation missions of Transportation Command and the logistic missions of the Defense Logistics Agency.

- **Space Command** would expand the use of space and information to implement a vision of global awareness, integrated space operations, and information superiority. CINCSPACE would be responsible for providing global infrastructures for the geographic commands. The Defense Information Systems Agency would be transferred to Space Command and become one of its subordinate commands. Space Command would be responsible for managing information infrastructure on a global scale and providing support and immediate access by combat commanders.

The five geographic Unified Commands would be adjusted as follows:

- **Americas Command** would include the United States, Canada, Mexico, Central America, the Caribbean Basin, and all of South America. The Americas Command would be responsible for the ocean approaches to the United States throughout the Maritime and Air Defense Zones. Its primary missions would be to defend the Americas from foreign threats, deter the use of weapons of mass destruction against the United States, and build cooperation among the nations of North, Central, and South America. Southern Command would be a subordinate command. A Homeland Defense Command, also a subordinate command, would be created for such missions as augmenting border security operations, defending North America from information warfare attacks and air and missile attacks, and augmenting consequence management of natural disasters and terrorist attacks. The North American Aerospace Defense Command would be transferred from CINCSPACE to CINC Americas Command. United States Atlantic Command would be disestablished. The responsibilities of Supreme Allied Commander (Atlantic) logically would be assumed by the commander of the Atlantic Fleet. The Panel recommends that, given the essential role of the Guard and other reserve components in these commands, the Deputy Commander Americas Command or Commander, Southern Command or Commander, Homeland Defense

Command be drawn from the reserve components. To reflect the broader scope of responsibilities and establish a clear chain of command, the Military Support to Civil Authorities (MSCA) mission should be transferred from the Department of the Army to the Americas Command.

- **European Command** would be extended to include Russia, Estonia, Latvia, Lithuania, Moldova, Ukraine, Belarus, Georgia, Armenia, and Azerbaijan. European Command would also assume responsibility for Egypt, Jordan, and Sudan.

- **Central Command**, focused on the oil sources of the Persian Gulf and the Caspian Sea, would include its current responsibilities less Pakistan, Egypt, Sudan, and Jordan and would expand to include Turkmenistan, Uzbekistan, Kazakhstan, Kyrgyzstan, and Tajikistan.

- **Pacific Command** would maintain its current responsibilities and assume responsibility for Pakistan.

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TRANSFORMING THE INDUSTRIAL BASE

In the twenty-first century, the United States will depend increasingly upon a global technology base for the product and process technologies needed for the development of future defense systems. This technology base will also have a strong commercial orientation, since civilian technologies are likely to offer their services to the highest bidder. Efforts to restrict the flow of technology across sovereign borders will be increasing difficult. The Panel believes that broad-based technology control regimes are likely to be futile, while control of specific military-unique technologies will become more important.

The Panel recognizes that a world that provides all nations with more or less equal access to defense-related technologies poses special challenges for the United States, which will continue to base its national strategy and global position on the technological superiority of its military forces. In coming decades, the United States can only preserve its current technological advantage through time-based competition: the ability to rapidly develop and deploy military applications of commercial technologies. System-development lead times, which now average well over a decade or more for major systems, must be dramatically reduced. Failure to make significant progress in this area will jeopardize our technological edge, a key component of our national strength.

INTEGRATE TECHNOLOGIES

- *Pursue Commercial-Off-The-Shelf (COTS) opportunities*
- *Exploit dual-use technology*
- *Identify and protect military-unique needs*

The Department of Defense also must devote adequate research and development resources to establishing and preserving the nation's preeminence in the design, integration, and operation of "systems of systems," or systems architectures. In an age of "technology leveling," leadership in system architecture is likely to become a key source of national advantage. Leading-edge capabilities in this area are a prerequisite for the full implementation of the revolution in military affairs. A current U.S. advantage is the integration of commercial dual-use technology with military unique technology. Continuing to advance these military-unique technologies is critical to maintaining military superiority and preventing technological surprise.

Encouraging Innovations

In recent years, the U.S. defense industry has undergone a dramatic restructuring, resulting in the emergence of a small number of large contractors with diverse and extensive technology capabilities. These large corporations have the resources and capabilities to play an instrumental role in making the revolution in military affairs a reality. However, the Department of Defense should take appropriate measures to ensure that these firms remain subject to adequate competitive forces, a key to efficiency and innovation.

Innovation is not an automatic product of R&D activity organized under labels like Skunkworks or Advanced Concept Technology Demonstrations (ACTDs). The engine for innovation has often involved the existence of a well-understood challenge arising from:

- An external threat (e.g., the Soviet Union in the past);
- An unsolved state of the art critical mission/requirement (e.g., detecting quiet submarines);
- An unexploited breakthrough technology having vast military potential (e.g., SAR imagery);
- A company's motivation to win a competitive procurement; or
- Intra-company incentives such as budget, prestige, promotion, or perks.

When these challenges for innovation exist and are publicly recognized, the best engineers and scientists flock to the defense industry; when the challenges are lacking or clouded, the commercial world attracts the best engineers. We need to foster innovation to meet the emerging challenges of 2010–2020. The Department of Defense therefore has to develop an acquisition environment that both rewards innovation and penalizes pedestrian efforts and products.

The Acquisition Process

A responsive, efficient acquisition process is also an essential element of the transformation strategy. Over the course of the Cold War, the Defense Department developed a complex and lengthy process to acquire new weapons. In order to validate a new requirement one must demonstrate a new threat to be countered. The process is optimized to avoid error, rather than encouraging the exploration of new concepts and ideas.

As noted above, the Panel recommends an acquisition strategy that is designed to foster innovation and to enable new technology to get to the field quickly. It would direct development and fielding of a small number of units of new weapon systems, avoiding large infrastructure investments and long, high rate production runs until new systems are validated.

Ultimately, Defense must reform the way it acquires systems. An important element of this would be heavier reliance on commercial practices including off-the-shelf technology. This requires further modifications of the acquisition regulations.

Joint tests, Advanced Concept Technology Demonstrations (ACTDs), and other experiments will serve as the front end of this process in most instances. The system must permit us to quickly produce small numbers of promising new platforms and equipment, modifying them as we employ them, but providing our forces with significant cutting edge military capability.

Department of Defense procurement rules should also be reviewed to ensure that all competitive levels, including smaller and start-up firms, are able to participate in the defense marketplace. The involvement of these companies, as well as foreign firms (especially those partnering with U.S. firms), in the competitive process for meeting Department of Defense research and development and procurement requirements can be an important source of innovation for the Department of Defense in the coming century.

But today's acquisition process is the product of fifty years of Cold War. It is a complex and lengthy process and is consciously reactive. Our current acquisition approach is predicated upon a Cold War wartime footing reinforced by the Korean and Vietnam Wars. We should be operating today under peacetime rules. Historically, during peacetime, large-scale production commitments are made under four conditions:

- War is perceived as imminent and the country is determined to field the best available weapons in quantity, (e.g., the WWII decision to build 50,000 aircraft per year);
- A technological plateau is reached, and no potential adversary could field a "trumping" system, (e.g., the Dreadnought class battleship);
- A current design is so successful that it can be evolved to meet new requirements, (e.g., the F-4 Phantom series); or
- We face block obsolescence of a key system.

The Department of Defense needs to provide industry with incentives to innovate so that we may maintain a qualitative technology edge so that the United States will continue to be preeminent in military technology. Rather than being reactive, we should make our military acquisition process proactive. The Department must work with Congress to devise new rules and policies that emphasize technology development and de-emphasize the need for large production quantities in order to recover cost and profit. This may create "sticker shock" on a unit-cost basis but if we can shorten the development cycle, development costs will be much lower. Moreover, reduced production quantities will reduce total program cost, which is a more relevant measure of the cost to the nation.

Mobilization

Closely related to the Cold War acquisition process is the manner in which we have treated mobilization in our planning processes with respect to forces, acquisition, infrastructure, and manpower. A mobilization system that allows us to call up forces and simultaneously produce the industrial means with which to conduct war has been a great strength of the United States. Its meaningfulness in the 2010–2020 time frame, however, is unclear. Technology, commercial developments, required manpower skills, transnational interrelationships, and the phenomenal expansion of information capabilities bring into question the applicability of traditional mobilization structures.

First of all is the question of balance. Within DoD programs, careful review will find that we make mobilization provisions for some items while others, notably new acquisitions and readiness, go begging for resources. In our future environment, it is more important to have a weapon on hand in adequate quantities than to have the capability available to produce that weapon six months or a year later.

Second is timeliness. Should a hostile peer competitor emerge, then we should make appropriate policy decisions at that time, including mobilization preparation within a sufficient lead-time, in order to be ready if hostilities break out.

Third is relevance. In these times of rapid technological advancement, neither stored weapons, materials, parts, nor manpower are necessarily relevant to the mobilization needs of future warfare.

Fourth is synchronization. Both equipment and manpower should be available for mobilization to satisfy CINC warplans. It makes no sense to have manpower assigned to mobilization units if there is no equipment nor to provide equipment for mobilization purposes without the manpower or without sufficient equipment for active components.

Given these four criteria, the Panel believes that Defense should scrub through programs and reconstitute policy and programming requirements to eliminate unnecessary cost associated with obsolete mobilization concepts.

TRANSFORMING INFRASTRUCTURE

The Infrastructure Problem

Fundamental reform of the Defense Department's support infrastructure is key to an effective transformation strategy for the years 2010–2020. Today, the Department of Defense is burdened by a far-flung support infrastructure that is ponderous, bureaucratic, and unaffordable. Unless its costs are cut sharply, the Department will lack the funds to invest in the future.

To a large extent, the Department of Defense support structure is a holdover from the Cold War. It consists of an extensive network of facilities, headquarters, and agencies located primarily in the continental United States that support combat forces and other deployable units. The support infrastructure includes the Office of the Secretary of Defense, joint and service headquarters organizations, defense agencies, industrial and engineering activities, distribution depots, commissaries and exchanges, medical facilities, dependent schools, and other support assets. Much of the structure is predicated upon maintaining an industrial and manpower mobilization base inappropriate to the relatively short wars we expect in the future or the short technological life-cycle we experience today and certainly will experience in 2010–2020.

> ***INFRASTRUCTURE—THE PROBLEM***
>
> *Excessive Cold War infrastructure costs divert resources from modernization and readiness*

The Department of Defense spends too much on this infrastructure and receives too little for the investment. According to the General Accounting Office, the Department devoted $146 billion in FY97, almost 60 percent of total budget authority, to defense support activities. The proportion of departmental resources devoted to infrastructure support has increased in recent years, since force structure reductions have significantly outpaced the decline in the support structure. This imposes a financial drain, undermining the fundamental viability of the nation's combat forces. Excessive support costs divert funding from procurement and research and development, and barring reform, the Department will almost certainly lack resources to fully implement planned modernization programs and fund other needed investments.

Moreover, Defense support services are often inferior to those available in the private sector. For example, compared to commercial, world-class customer support organizations, the Defense supply system takes too long to deliver parts to its customers, fails too frequently to properly fill orders, and has difficulty tracking items in transit. Department depots take much longer than commercial maintenance facilities to repair aircraft,

> ***SUPPORT SERVICES—THE PROBLEM***
>
> *Department of Defense support services are often inferior to those in the private sector*
>
> *time—tracking—quality—spares*

and tend to deliver those aircraft in less reliable condition. Because of chronic lack of maintenance resources, the Department's housing stock has significantly deteriorated, affecting the quality of life of thousands of military families.

Defense initiatives to improve support services and consolidate its infrastructure often have been fragmented or incomplete. For example, the base realignment and closure process (BRAC) has resulted in the scheduled closure of ninety-seven major domestic bases—representing only twenty-one percent of installation capacity, compared to a Department force structure drawdown of more than thirty percent. Despite some progress in contracting out commercial-oriented functions, many support functions, such as data processing, equipment maintenance, individual training, and dependent medical care, continue to be performed by hundreds of thousands of government personnel despite any compelling military rationale for this in-house overhead.

Department of Defense managers have little personal incentive to aggressively pursue opportunities for infrastructure streamlining and cost reduction. Such actions are often unpopular among the local workforce, and the Comptroller frequently seizes projected savings before efficiencies are realized. Thus, the current system is heavily biased against innovation and change—and encourages the continuation of inefficient and ineffective business practices.

Principles of Infrastructure Management for 2020

The Panel supports the infrastructure initiatives put forward in the recently published Defense Reform Initiative. However, the Panel believes more can and should be done. The Department should shift its strategy for reforming the defense support structure to a "bottom-up" approach that empowers managers at all levels with greater capability and authority to make common-sense decisions for the benefit of the Department. The following are key elements of this new paradigm:

- **Cost Visibility/Accuracy:** Accurate cost information is a prerequisite for improved resource allocation decisions. The Department should develop financial systems that help managers identify inefficient practices and target areas for process improvement;

- **Positive Incentives:** The Department of Defense must establish credible mechanisms to ensure that at least a portion of the savings achieved through streamlining efforts is retained by the local organization for its own use, and that "savings" are not taken from activities before reforms are fully implemented;

- **Choice and Competition:** Choice and competition motivate individuals and organizations to seek innovative approaches to

meeting customer needs. Increasing the role of competitive forces in the delivery of support services would be essential to achieving lower costs and improved service quality;

- **Resource Flexibility:** Under current budget rules, Defense managers have little flexibility to shift resources to make common-sense trade-offs or to respond to unanticipated requirements. Greater flexibility in resource management would encourage innovation and process improvement throughout the Department;

- **Civil/Military Integration:** Defense personnel should be integrated into their local communities, using commercial services to the maximum extent. This departure from the traditional concept of the isolated, self-sufficient military base gives military personnel greater responsibility for their own affairs and fosters civilian society's understanding of the military.

Improvement Opportunities

To develop a more responsive and cost-effective support structure, the Department of Defense must apply the above broad principles to key components of the defense infrastructure. While many of the issues discussed below are contentious, the Panel urges the Department and Congress to establish a partnership to develop and aggressively implement far-reaching reforms. Priority areas for improvement include resource management, force management, installations and personnel support, and industrial and engineering support.

Resource Management

The Department's approach to managing its resources requires fundamental restructuring. The current process trivializes management, forcing officials to spend most of their time and energy on relatively unimportant problems. Meaningful reform of the Department of Defense support infrastructure is not possible unless the Department establishes a more effective and business-like approach to resource management.

PPBS: The Planning, Programming and Budgeting System (PPBS) has evolved into a rigid and bureaucratic process that has transformed Pentagon operations into an endless series of budget drills—to the detriment of strategic planning and sound management. A large portion of the Secretary and service headquarter staff positions exist primarily to support the cumbersome process. Moreover, the system "locks in" the services to programmatic and funding decisions several years in advance—regardless of changing circumstances. The Panel recommends that the Department fundamentally reorganize its planning,

programming, and budgeting processes to enhance its agility, efficiency, and effectiveness.

In particular, planning needs more focus. Since its creation in the early 1960s, critics have pointed out that the first 'P' is silent. To this end, the Panel recommends the establishment of a disciplined long-range planning process that extends beyond the FYDP. Currently, the Defense Department does not have a long-range plan to merge fiscal reality with Congressional, service, CINC requirements, and future plans. Fiscal rigor does not extend beyond the period of the FYDP. At a minimum, the services must be held to reasonable degrees of rigor in the out-year program. The force structure each service plans to support must be sustainable within its budget share, as allocated by the Secretary of Defense.

"Color of Money": The Department of Defense must work with Congressional support to eliminate or relax "color of money" restrictions. Currently, budget rules require the Department to assign funds to numerous separate accounts and subaccounts. To make cost-effective decisions and respond to changing needs, Department of Defense managers need the flexibility to shift funds between accounts. Instead of highly detailed budgets, local organizations should only be required to spend minimum funds in various program categories and be able to devote the remaining resources to areas that are most likely to maximize mission effectiveness.

Cost Visibility: Access to accurate cost information is a prerequisite for cost-effective resource management decisions. Today, Department accounting systems are designed to support the Federal budget process and control obligations. They provide little insight into the true costs of operating defense installations or delivering specific support services. Without good cost data, Defense managers have difficulty identifying inefficient practices and unwittingly make suboptimal resource allocation decisions.

In many respects, the establishment of reimbursable funding mechanisms, such as the Working Capital Funds (WCF), represents an effort on the part of the Department of Defense and the military departments to provide improved cost visibility for both customers and suppliers of support services. However, the WCF rates do not accurately reflect the cost of service delivery, since they often include substantial surcharges and are subject to administrative manipulation. In addition, the Defense customer usually has no choice but to buy from the monopoly provider, further reducing the value of WCF.

The Panel recommends that the Department accelerate the deployment of financial management systems in Defense support organizations with strong activity-based costing capabilities. Such systems enable managers to understand true costs, identify inefficient practices, and target areas for process improvement. The WCF should also be restructured to more accurately reflect full service costs,

which would improve resource management decisions.

Although the Defense Reform Initiative recommends competing the 150,000 positions, the Department employs approximately 600,000 military and civilian personnel who perform commercial-oriented support tasks that have little direct impact on military preparedness. In many cases, private vendors could provide these support services more cost-effectively. To transform the defense infrastructure, the Panel believes the Department should subject all commercial-oriented positions to public versus private competition. On the basis of past experience, when such functions are competed, the Department saves an average of 30 percent—even if the government entity wins the competition—and service improves. It is estimated that opening all of the Department of Defense's commercial-oriented positions for competition would result in recurring annual savings of $10 billion. We recognize that some of these savings have already been included in the Defense program but are convinced that further substantial savings can be made. To achieve these savings, improvements in the competitive process are needed to provide a level playing field.

Installations and Personnel Support

This infrastructure category includes the Defense facilities and services devoted to the day-to-day support of uniformed personnel and/or their dependents: government housing, base support services, dependent schools, commissaries and exchanges, and medical services. Military retirees and their families may also benefit from these support services.

New "Base" Concept: Traditionally, the Department of Defense has operated its major domestic bases as relatively isolated, largely self-contained military communities. A paternalistic culture that provides on-base housing, health care, entertainment, education, and family support services to military personnel, their dependents, and nearby retiree families has been the result.

This approach may have been appropriate when U.S. military forces typically were based in isolated and/or frontier environments. However, most military bases are now located in areas with vibrant civilian communities that offer a full range of support services. Military personnel already depend on the local economy for many services; for example, two-thirds of military families live off the base. This network of full-service installations is expensive to operate and maintain—especially during periods of force structure reductions.

In the view of the Panel, the services should reconsider the traditional concept of the military base. Rather than using on-base housing, commissaries, and other support services, military personnel would receive additional compensation. This shift would allow the services to reduce their investment in on-base facilities and services, permitting an increase in the benefit provided. According to a recent Center for Naval Analyses study, military personnel

currently living in on-base housing could significantly improve their quality of life if the Defense Department allowed them to use housing construction and maintenance funds to find their own accommodations in the civilian economy. The integration of military personnel into the local community may also foster greater individual responsibility and a civilian society's greater appreciation of the military.

Installation and Facility Consolidation: To reduce the cost of maintaining the defense infrastructure, the Department of Defense must minimize the number of surplus facilities and installations under its direct control. While four previous base realignment and closure (BRAC) rounds have reduced installation capacity by twenty-one percent, base consolidation has not occurred as rapidly as the reduction of force structure, personnel, or workload. Recurring savings from previous closure rounds have averaged about $1.4 billion, with up-front investment costs (relocation, environmental clean-up, etc.) totaling about $4 billion per round.

EXCESS BASES

- *Support the Defense Reform Initiative for two additional BRAC rounds*
- *Accelerate base closure schedule*

As the Defense Reform Initiative stated, recent analyses indicate that there is sufficient surplus capacity for two additional BRAC rounds, equal to the average of the previous rounds. However, these calculations are based on the continuation of a service-oriented base structure that maintains extensive duplication across military departments. The Panel strongly endorses the conclusion that the move toward joint installations—such as the development of joint industrial activities, R&D facilities, or test ranges—would make possible further major consolidations of the defense infrastructure. This movement should be expanded to include joint operational bases (e.g., joint air bases), which we believe will result in the identification of even more over-capacity.

Recently, Congressional concerns regarding the integrity of the base-closure decision process have precluded further consolidation. The Panel strongly urges Congress and the Department to move quickly to restore the base realignment and closure (BRAC) process. The next round might be preceded by an independent, comprehensive inventory and evaluation of all facilities and installations located in the continental United States. This review would provide the basis for a long-term installation master plan that aligns infrastructure assets with future military requirements, and provides a framework for investment and reuse strategies. This approach would depoliticize the base-closure issue to the extent possible and establish a common reference point for future closure decisions, thus enabling base closures earlier than the current 2001/2005 Department proposal.

Industrial and Engineering Support

Industrial and engineering support, the largest infrastructure category, includes the naval shipyards, maintenance depots, research laboratories and test ranges operated by the military departments. This category also includes the supply depots operated by the military departments and Defense Logistics Agency (DLA).

Depot maintenance: The Department of Defense is not an efficient or effective manager of industrial activities and should get out of this business to the extent possible. The Panel urges the Congress to provide legislation that removes statutory barriers to a greater private sector role in Defense depot maintenance. For example, the Department should continue to seek the revision of 10 U.S.C 2464 and 10 U.S.C 2466 to allow capable and reliable contractors to perform mission-essential depot maintenance work. Restrictions, such as the 50/50 requirement, should be removed because these mandates result in inefficient allocation of Defense maintenance resources. The Department of Defense should accelerate public vs. private competitions for existing systems, ensuring a level playing field for all bidders, and move to contractor logistics support for new systems. Some residual, organic depot capability should be retained to maintain legacy weapon systems, which the private sector can or will no longer support.

Defense Labs: A series of studies over the past few years have demonstrated the need for a substantial restructuring and reduction in the size of the Defense laboratory system. These proposals should be implemented promptly.

Future Vision

In the twenty-first century, as velocity increasingly dominates mass, the Department of Defense must embrace a new paradigm for providing effective combat support services. This approach must fully leverage the capabilities, technologies, and business practices of the commercial sector, adapted to the unique mission and special circumstances of the military environment. The result will be a lighter, leaner, more flexible defense infrastructure that ensures military readiness at significantly reduced costs.

> *INFRASTRUCTURE—KEY OBJECTIVE*
>
> *Transform infrastructure from an impediment to a cost-effective enabler of readiness and modernization*

To achieve this vision, a fundamental transformation of support structure functions must be a priority. Such a transformation can be achieved only if the Department of Defense and the military departments are willing to consider dramatic changes that fully leverage innovative business practices and technologies. Without fundamental change, the defense infrastructure will continue to divert precious resources from modernization and readiness, and

ultimately threaten the ability of the United States to utilize military power in support of national security objectives.

CONCLUSION

In the increasingly complex and dynamic world that we foresee, the Department of Defense and its armed services alone cannot preserve U.S. interests. Defense is but one element of a broader national security structure. If we are to be successful in meeting the challenges of the future, the entire U.S. national security apparatus must adapt to become more integrated, coherent, and proactive.

Although aggressively transforming our military may present some risk, the Panel believes that risk is both acceptable and manageable. At any point during this transformation process, we should be able to handle any and all major combat operations—and make it apparent to a potential adversary that we can, and will.

Implementing a transformation such as described in this Report promises to be complicated and will require a delicate balance. We must be careful not to dismantle elements of the current structure that are still applicable to near-term challenges. The Panel believes that if we refuse to change in a timely manner, however, we risk being fundamentally unprepared for the future, thereby putting in question the security of future generations of Americans. We have the time and the opportunity to adjust. But we cannot equivocate. We must begin now.

GLOSSARY

AAN	Army After Next
above the line force structure	The force structure (including numbers, strengths, and composition and major items of equipment) for the Armed Forces at the following unit levels: (A) In the case of the Army, the division. (B) In the case of the Navy, the battle group. (C) In the case of the Air force, the wing. (D) In the case of the Marine Corps, the expeditionary force. (E) In the case of special operations forces of the Army, Navy, or Air Force, the major operating unit. (F) In the case of the strategic forces, the ballistic missile submarine fleet, the heavy bomber force, and the intercontinental ballistic missile force.
asymmetric	The property of being dissimilar in nature to its counterpart; not a mirror image. In military parlance, the opposition of two unlike forces who seek to gain advantage over the other by differing applications of power.
AWE	Advanced Warfighting Experiment
BRAC	Base realignment and closure
centers of gravity	Those characteristics, capabilities, or localities from which a military force derives its freedom of action, physical strength, or will to fight.
CINC	Commander In Chief
CINCSPACE	Commander In Chief, U.S. Space Command
CJCS	Chairman of the Joint Chiefs of Staff

counterproliferation	The full range of actions by the U.S. government to deter, delay, halt, or roll back the proliferation of weapons of mass destruction (WMD) and their delivery systems. Counterproliferation efforts are associated with the following seven functional areas: 1) proliferation prevention; 2)strategic and tactical intelligence; 3) battlefield surveillance; 4) counterforce; 5) active defense; 6) passive defense; 7) counterterrorism.
CVX	Future class of aircraft carrier
cyber-assault	Attacks on or through cyberspace
cyberspace	1. The Global Information Infrastructure. 2. That aspect of the area of conflict composed of the electromagnetic spectrum and non-human sensing dimension in which stealth-masked forces either stage attacks or seek refuge from them.
cyberterrorism	Acts of terrorism committed through cyberspace.
deterrence	The prevention from action by fear of consequences brought about by the existence of a credible threat of unacceptable counteraction
DoD	Department of Defense
DoD Directive 5100.1	The document that promulgates the responsibilities and functions of the Department of Defense.
FYDP	Future Years Defense Program
GAO	General Accounting Office
Goldwater-Nichols Act of 1986	Legislation for defense reform championed by Senator Barry Goldwater and Congressman Bill Nichols that sought to bestow greater autonomy and responsibility to the warfighters leading the unified and specified commands. More particularly, it emphasized the civilian authority of the Secretary of Defense, improved military advice provided to the President and the National Security Council, and placed clear responsibility on the commanders of the unified and specified combatant commands to the President through the Secretary of Defense. The Chairman of the Joint Chiefs and the service chiefs were specifically omitted in this chain of command.

HUMINT	Human Intelligence
information infrastructure	Linkages of individual information systems in a myriad of direct and indirect paths that transcend industry, media and the military and include both government and non-government entities.
information operations	Actions taken to affect adversary information and information systems while defending one's own information and information systems.
information superiority	The capability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same.
information warfare	Information operations conducted during time of crisis or conflict to achieve or promote specific objectives over a specific adversary or adversaries. Also called IW.
Infrastructure	A term generally applicable to all fixed and permanent installations, fabrications, or facilities for the support and control of military forces.
"iron mountains"	Large stockpiles of armaments and munitions.
JCDC	Joint Concept Development Center
littoral	A zone of military operations along a coastline, consisting of the seaward approaches from the open ocean to the shore which must be controlled to support operations ashore, as well as the landward approaches to the shore that can be supported and defended directly from the sea.
nano-technology	The art of manipulating materials on an atomic or molecular scale to build microscopic devices.
narco-state	A country dominated by drug organizations
narco-terrorism	Terrorism financed by or conducted to further the aims of drug traffickers.

National Security Act of 1947	The National Security Act of 1947, (P.L.80-253) established the intragovernmental structure for managing the national security needs of the post-war environment. The Act defined the post-war military services, created an independent Air Force, established the Department of Defense, and created the Central Intelligence Agency. It also created the National Security Council, under the chairmanship of the President.
NATO	North Atlantic Treaty Organization
non-proliferation	Actions, programs, and initiatives to prevent or slow the spread of WMD technology, equipment, and materials. (see counterproliferation)
pandemic	Epidemic over a wide geographic area: e.g. pandemic influenza.
"posse comitatus"	The 1868 Posse Comitatus law prohibits the Army and Air Force from engaging in domestic law enforcement; a long-standing order from the Secretary of the Navy extends that prohibition to the Navy and Marine Corps.
PPBS	Planning, Programming, and Budgeting System
proliferation	The spread of WMD and associated technologies
QDR	Quadrennial Defense Review
R&D	Research and Development
rogue state	A country engaged in behavior counter to the norms of international security, such as supporting terrorism or developing weapons of mass destruction.
salvo	The simultaneous firing of a number of weapons at a given target.
sanctuary	A nation or area near or contiguous to the combat area which by tacit agreement between the warring powers is exempt from attack and therefore serves as a refuge for staging, logistic, or other activities of the combatant powers.
SAR	Synthetic Aperture Radar

sarin	Nerve poisoning gas of organic phosphorus compound developed by the Nazis in the Second World War. Pure sarin is colorless and odorless and is described as 500 times as toxic as potassium cyanide.
special operations	Operations conducted by specially organized, trained, and equipped military and paramilitary forces to achieve military, political, economic, or psychological objectives by unconventional military means in hostile, denied, or politically sensitive areas. These operations are conducted during peacetime competition, conflict, and war, independently or in coordination with operations of conventional, nonspecial operations forces. Political-military considerations frequently shape special operations, requiring clandestine, covert, or low visibility techniques and oversight at the national level. Special operations differ from conventional operations in degree of physical and political risk, operational techniques, mode of employment, independence from friendly support, and dependence on detailed operational intelligence and indigenous assets.
Special Operations Forces	Those active and reserve component forces of the military services designated by the Secretary of Defense and specifically organized, trained, and equipped to conduct and support special operations.
START II	Strategic Arms Reduction Treaty II. Nuclear arms reduction treaty between Russia and the United States. Signed between the United States and the USSR in July 1991, it would reduce strategic nuclear forces to 3,000–3,500 on each side. The U.S. Senate gave its advice and consent to ratification of the Treaty in 1996. The Russian Duma is considering the treaty for ratification.
START III	Strategic Arms Reduction Treaty III. Follow-on negotiations to reduce nuclear arsenals below levels under consideration in the START II agreement. A proposed agreement in March 1997 would reduce levels to 2000–2500 warheads on each side.
stealth	Technology that minimizes the observable aspects of a piece of military equipment, including radar and infrared signature, visibility, and sound.

transnational threats	Threats or challenges which 1) stem from and have effects across more than one state; 2) are a function of the changing balance between the nation-state's capacity and authority to use force and that of non-state entities; and 3) involve the actions of non-state actors in terrorism, organized crime, drug trafficking, and weapons proliferation.
UCP	Unified Command Plan. The document, approved by the President, which sets forth basic guidance to all unified combatant commanders; establishes their missions, responsibilities, and force structure; delineates the general geographical area of responsibility for geographic combatant commanders; and specifies functional responsibilities for functional combatant commanders.
unconventional warfare	A broad spectrum of military and paramilitary operations, normally of long duration, predominantly conducted by indigenous or surrogate forces who are organized, trained, equipped, supported, and directed in varying degrees by an external source. It includes guerrilla warfare and other direct offensive, low visibility, covert, or clandestine operations, as well as the indirect activities of subversion, sabotage, intelligence activities, and evasion and escape.
Unified Command	A command with a broad and continuing mission under a single commander and composed of significant assigned components of two or more Military Departments, and which is established and so designated by the President, through the Secretary of Defense with the advice and assistance of the Chairman of the Joint Chiefs of Staff.
WCF	Working Capital Fund. A revolving fund established to finance inventories of supplies and other stores, or to provide working capital for industrial-type activities.
WMD	Weapons of Mass Destruction. This usually refers to chemical, biological, and nuclear weapons and the missiles capable of carrying them. Sometimes radiological weapons are also included.