

Global Awareness

Global perspective provides national and military leaders valuable force multipliers that enable us to meet and master the new and demanding challenges in future combat environments. More so now than in the past, *friction*, *chance*, and *uncertainty*—or the “fog of war”—will characterize conflict and permeate the battlespace well into the future. To overcome these challenges, national leaders and military commanders are provided a clear, four-dimensional picture of the situation before committing both lives and resources. This fully integrated view of the battlespace provides commanders a theater perspective and enhances decision-makers’ awareness while planning for, deploying to, and controlling joint and allied forces within the battlespace. This perspective, available through national, military, and commercial systems, plays a critical role in characterizing how America will engage threats and conduct future warfare. As our nation and military forces become more reliant upon advancing technologies, protective measures must be maintained to ensure these multipliers and enhancements remain available, unhindered by adversarial attempts to exploit them against us. Theater commanders will use available space and informational systems to assist in the identification, planning, execution, and determining the effectiveness of the overall campaign plan and established theater objectives.

Current integrated space and information operations enhance situational awareness from all strategic-, operational-, and tactical-level perspectives. Additionally, global situational awareness acts as a military forward presence, facilitating the introduction of forces into a theater, aiding allies readiness, providing humanitarian assistance, and unilaterally defending vital US interests. This capability provides military commanders with unique situational awareness to better determine objectives and possible courses of action, either globally or within a specified region of interest. Utilizing military and national reconnaissance and surveillance sources, theater commanders gain the advantage of knowing the

enemy actions and intentions as they develop. Global situational awareness further enhances political and diplomatic resolution efforts through providing allies reassurances of US support, and demonstrating American resolve and commitment to worldwide democratic development. By combining overhead imagery, signals surveillance, and human intelligence, commanders are given the capability to mobilize defense forces and deploy offensive air and ground forces to counter adversarial actions using the elements of surprise, mass, and concentration to enhance decisive maneuver. Global situational awareness also acts as a deterrent against aggression and minimizes international uncertainty by promoting political, economic, and military stability. Real-time situational intelligence, coupled with quick reaction mobility forces, affords increased flexibility to national leaders and theater commanders in placing highly mobile, lethal forces at their disposal to protect global US interests.

Awareness, gained from both space and information perspectives, enhances existing command and control capabilities supporting force determination and employment into areas of potential conflict. Improved command and control capabilities allow commanders, planners, and war fighters the ability to exchange critical information freely, securely, and frequently; therefore, enhancing the commander's ability to exploit the advantages of time and economy of force. Enhanced battle management command, control, communications, computers, and intelligence (BMC⁴I) makes near-real-time information collection and dissemination one of the most valuable tools available. This capability yields simultaneous multilevel dissemination of information between all levels of national and military power, further reducing the fog of war inherent in armed conflict. With this capability, commanders are able to assess real-time effects on targets simultaneously while directing engaged forces.

The global access of space, coupled with the informational technologies available to today's war fighters, supports all commander in chief (CINC) initiatives for decisive engagement. The economy of force gained in acting before an adversary can react

provides our joint commanders the ability to leverage the effectiveness of smaller military forces utilizing asymmetric force strategies. This ensures all joint and combined forces are employed in the most efficient and complementary manner possible, guaranteeing campaign objectives are achieved with minimal risk to the joint force. Capitalizing on the synergy inherent within the joint force reduces the chance of being unprepared to respond to regional crises as they develop. Global perspective further allows theater commanders to tailor campaigns and phase the necessary support infrastructure to meet objectives in the most effective and efficient manner. At the operational level, regional situational awareness enhances the commander's ability to precisely analyze potential threats and assist in designing the joint force necessary to counter that threat. This speeds considerably the decision process for where and when friendly forces need to be engaged. This concept of perspective is essential when establishing theater objectives, formulating the commander's "end state" vision, and planning the joint air and space portions of the theater campaign. With analytical insight into the adversary's strengths and weaknesses provided by the wide array of intelligence and informational sources, commanders can employ appropriate forces against the enemy for quick and decisive victory; while reducing the risk of fratricide to friendly forces and minimizing collateral damage.

Space Operations

The unhindered global access space operations provides gives national and military leaders continuous, near-real-time situational awareness. This near-instantaneous means of collecting and dissemination of information enhances rapid identification and analysis of threats to US interests. This critical capability, in the form of on-orbit multispectral imagery and surveillance, provides advanced intelligence indications and warning of impending attack against friendly forces. With 24-hour a day space-based coverage, a US military forward presence is constantly perceived by potential

adversaries. This method of nonintrusive power projection demonstrates US national resolve to supported governments, and provides military leaders the ability to detect, track, and provide immediate warning of changes within their areas of responsibility (AOR).

Space-based overhead systems are able to penetrate, observe, and support the many needs of a theater commander without placing valuable lives and equipment at risk; and indirectly act as a deterrent while forcing adversaries to restructure, hide, revise operations, and change strategies under the threat of constant surveillance. This ensures relative freedom of action within the combat environment for our joint forces, greatly improves the operational tempo, and significantly reduces the reaction time of friendly forces. Global perspective also provides rapid indication and warning of growing threats to national security or interests, while assisting decision makers in evaluating the relative importance of factors when responding to multiple crises. Space surveillance, when combined with traditional intelligence methods and other national sources, provides theater commanders with multiple perspectives of their respective AOR. With the capability to assess the situation from several views, commanders are able to combine accurate and pervasive intelligence, surveillance, and reconnaissance to quickly collect and analyze developments to exploit situations to their advantage.

Combining on- and off-board space intelligence sources provides theater commanders objective data to accurately appraise situations and implement necessary diffusing responses. Information resources further provide the joint force with campaign-level measurements of effectiveness against an enemy's strategy, and helps determine when objectives are achieved. The space-originated perspective also helps to promote peace through continuous presence, as well as enhance peacekeeping operations through treaty compliance and disarmament verification.

Another advantage space operations offers is ability to identify where to best engage the enemy within the battlespace.

Space-provided intelligence increases the commander's ability to detect and notify theater forces of changes in an adversary's order of battle information, deployment activities, and maneuvers. This full-dimensional perspective of the battlespace reduces friction and uncertainty of conflict, and provides a better understanding of the adversary's forces within combat environment. Space forces also enhance the lethality, precision, agility and survivability of friendly forces through accurate and precise navigation and environmental analysis operations. These enhancements directly support the deployment, employment, and redeployment of forces into and within theater, using reconnaissance and surveillance to make previously unknown targets known and unfamiliar terrain familiar. This increases the CINC's overall capability to detect, plan, and react faster than the adversary. In addition, space-based communication platforms provide rapid, secure, and reliable means of communicating critical information to all theater components. Space communications also plays an integral role in the collection, processing, and dissemination of timely warning of attack information to theater commanders and allied nations. With the proliferation of missile and nuclear, biological, and chemical (NBC) weapons technology, and rapid identification of ballistic missile systems, the warning of impending attack will become more important; especially as America's joint forces become more expeditionary in nature. This warning becomes essential in planning for ballistic missile attack and ensuring theater force survivability through active and passive defensive measures.

Space operations enhance the joint force's capability to centralized control and decentralized execution of all theater forces. All operational and tactical level commanders are provided with real-time connectivity throughout the joint force. In addition, secure, reliable space communications allow the capability for multiple and worldwide users to receive support simultaneously from the same platform. This allows national leaders and theater commanders to view the battlespace from the same perspective, which assists in redefining or refocusing efforts towards objectives. The flexibility of

battlespace awareness significantly increases our force's versatility and provides redundancy for both intra- and intertheater connectivity, thus ensuring full force coordination for maximum synergistic effect.

Information Operations

Information operations are also critical to every aspect of warfare, from intelligence and command and control, down to tactical engagement. Information operations, or the control of information within the theater, expand the theater commander's opportunities to disrupt or influence the adversary. Integrating a full range of information operations into the theater campaign plan supports the nation's strategic objectives and assists in fulfilling the theater commander's vision. A strong offensive and defensive information infrastructure enhances the effectiveness and security of the commander's BMC⁴I capability within theater; thus, increasing the probability of achieving objectives. Rapid and reliable spaceborne communications, combined with secure and accurate information, allows global linkage with real-time, push and/or pull information systems that provide tailored support for all facets of theater operations.

Information, whether collected from space, airborne, or surface sources, furnishes a timely means to observe, analyze, and react to international developments. It also highlights international events and raises awareness of regional crises that require military response. With this capability to detect changes in political, social, or cultural environments quickly, national leaders are made aware of danger sooner. Combined with America's rapidly mobile forces, it extends the available reaction time for national leaders and military commanders to analyze and respond to regional crises, and reduces the response time of US forces.

Information is also critical in assessing the adversary's war-making capability. With detailed information, theater CINCs are provided a greater understanding of the adversary's national power, enabling them to determine an adversary's key strengths, weaknesses, and

interdependencies. Additionally, political, social, cultural, and historical information is essential to understanding why an adversary is taking a certain course of action, and gives an operational insight into an enemy nation-state's supporting infrastructure. These quintessential components are invaluable in pinning down enemy centers of gravity, and help identify what may be targeted as the enemy state's *will*.

Offensive information operations provides commanders with a mechanism to influence the adversary's information flow and interrupt his decision cycle. This is accomplished by controlling both the amount and quality of data injected into the adversary's information architecture. This enhances a theater commander's advantage by widening the gap between friendly actions and the responding reaction by the adversary. Managing and controlling the adversary's decision cycle allows commanders the ability to manipulate the targeted information to deceive, disrupt, or create dilemmas upon which an adversary must act. This increases both the complexity and risk to the adversary's strategy and decisions, and allows joint and allied commanders the ability to further control the virtual battlespace. Properly applied information operations gives commanders a truly interactive picture of the battlespace, increases interoperability between joint and coalition forces, and establishes a seamless integrated battlespace management system throughout the AOR. Further, advancing information technologies will continue to improve the capabilities of military forces to function in nontraditional environments, exploit new ideas and emerging technologies as they arise, and counter all foreseeable threats to America's security well into the twenty-first century. With this collection of capabilities that exploit the space and information mediums, America's national leadership and military commanders possess a full-dimensional global awareness, a seamless perspective of the entire battlespace, and continued information superiority over any potential adversary.