

2020 White Paper Space

The 2020 battlefield extends vertically into space, “the ultimate high ground.” As a space empowered force, UE’s, UA’s, Stryker, and Current Force units across the Army routinely exploit military and civilian space systems to support decision dominance and decisive victory.

Army space operations, supporting a strategically responsive and flexible Land Force, are guided by five essential tasks: enable situational understanding and joint battle command enroute, off the ramp, and on the move; support precision maneuver, fires, and sustainment; contribute to continuous information and decision superiority; support increased deployability by reducing the in-theater footprint; and protect the force during all phases of operations.

In order to accomplish these tasks, space operations are characterized as assured, responsive and timely and are available to the tactical level commander. In 2020 the Army routinely exploits communication, intelligence and surveillance, early warning, position/navigation, weather, terrain, and environmental space systems integrated through direct links and global broadcasts. This fully integrated space support provides depth, persistence and reach capabilities, from the national to tactical levels, that organic systems cannot provide. Space support is particularly valuable in remote and immature theaters, with insufficient or unreliable infrastructure. These capabilities are fused with the operational capabilities of air and terrestrial-based systems to the degree that most space-operations are transparent to the tactical commander. He has these capabilities without being consciously aware of them or having to gain specially authorization to access them. Tactical commanders have assured and on-demand access to satellite communications as well as space-based ISR in real to near-real-time. Space systems have much greater capacity and coverage capabilities than early systems had. Additionally the Joint Force Commander (JFC) has an enhanced ability to protect space interests and routinely deny space products and services to adversaries with an organic, ground-based space control system.

Space is inherently Joint and the Army, as an interdependent member of the Space Community, relies on space products and services provided by DoD, intergovernmental agencies and commercial space systems. Space-based systems and services are fully integrated into Joint networks and architectures along with other types of systems. A Joint seamless space to soldier continuum of terrestrial, air and space-based sensors, networks and information exists, integrating Space with Land Force and Joint Operations and contributing to continuous information and decision superiority for the JFC. Army forces, from strategic to the tactical levels, are interoperable with non-organic space systems and able to utilize their capabilities. Additionally, space systems fully integrate

with Joint and Service air/ground architectures to enhance C4 and ISR support to the tactical commander.

Today in 2020 space systems specifically provide: a means to disseminate data to HSOCs and throughout the battlefield despite distance or lack of line of sight, thus reducing forces required in-theater. Space-based ISR provides persistent coverage of adversary location, activity, and positioning thus supporting situational awareness of enemy forces and targeting. Space-based missile warning systems provide early warning of missile fires and other enemy actions, while Position, Navigation and Timing satellites provide precise data location and navigational data supporting friendly maneuver and targeting of enemy forces.

America's national security and economic well-being are dependent on activities conducted in space. In the almost thirty years since Desert Storm, space systems have transformed military, civil and commercial operations. The global proliferation of commercial space systems provides products and services to competitors and adversaries that rival those of the U.S. Once only available to senior leaders of industrial nations, all state and non-state actors have space capabilities due to high grade, commercial space products including high bandwidth communications, high-resolution imagery as well as others. Space control, defined as operations to ensure U.S. freedom of action in space and, when directed, deny an adversary freedom of action in space, is essential to conducting network-centric warfare and protecting U.S. national interests. The Army conducts ground-based space control, selectively integrated into other information operations (IO), which provide the Joint commander a responsive and tactically relevant capability. Army space control operations fully integrate with Joint Space and Land Force operations.

With the Army's increased reliance on space assets, the need to possess a "Space Bench", or group of space knowledgeable soldiers, exists. Organization, training and doctrine support the development and maintenance of the Space Bench. The Army's need for space operations officers and space doctrinal training has multiplied over the last twenty years. Space trained personnel, as part of the organic Space Support Element, work in the UE assisting commanders and staffs fully integrate and synchronize space-based information and capabilities into land operations, across the full spectrum of conflict. Space Control units and soldiers are assigned to support land force operations worldwide and are fully integrated into Joint Force operations. Army space officers are fully integrated within the Combatant Commands and ensure that Army space capabilities are available to the Joint Commander, when required. More importantly, a robust space professional military education program is incorporated into all Army Service School curriculums, providing a relevant, fundamental level of space knowledge to officers, NCOs, soldiers and civilians. As a result all soldiers are knowledgeable, skilled and confident

working with space systems and products and view space-based operations as an integral and routine part of Land Force Operations.

Space-based systems and the resulting products significantly reduce the fog, friction, and uncertainty of warfare in 2020. Fully integrated space-based systems link units and capabilities across vast distances providing the commander unprecedented flexibility to collaboratively plan and execute full-spectrum military operations at the time and place of his choosing.