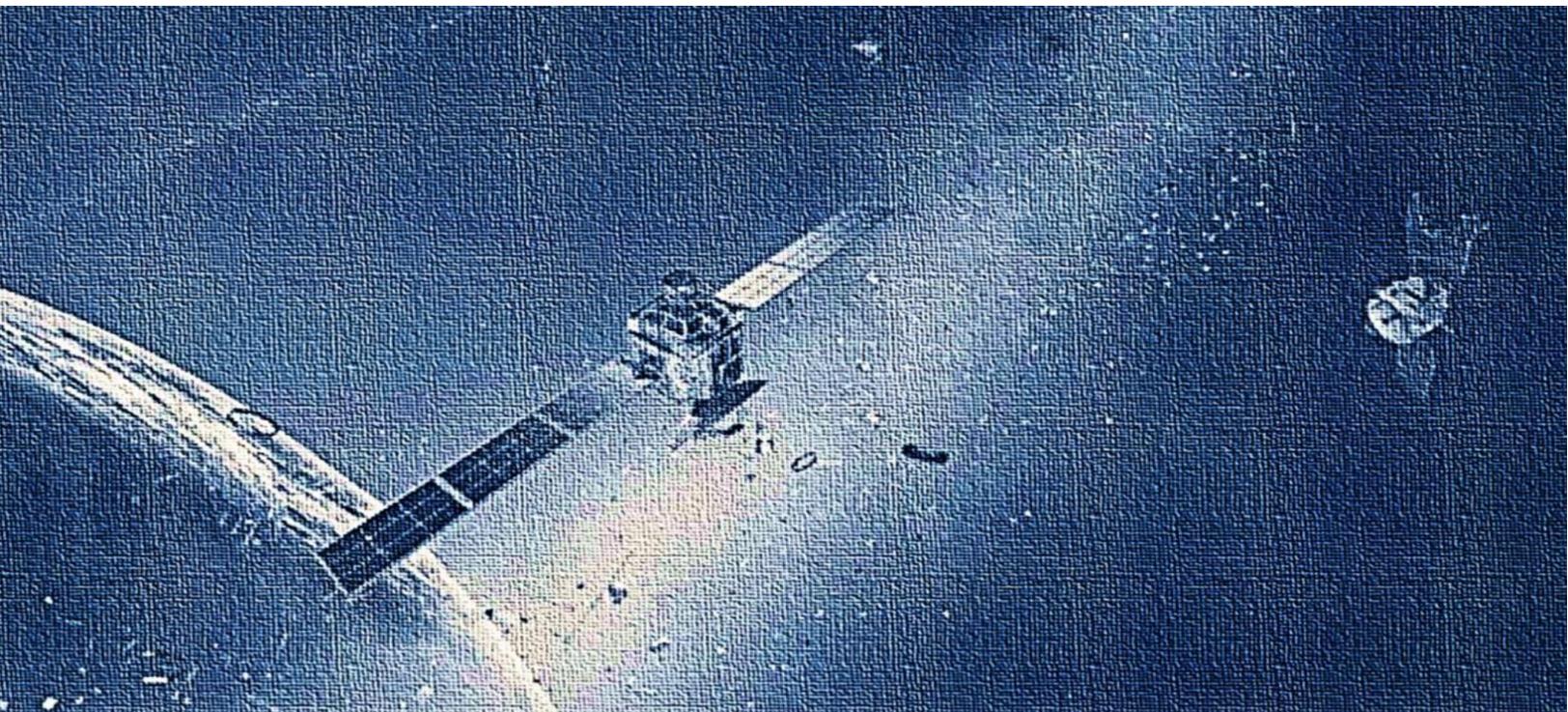


ASCENDANCY

THE SPACE WARFIGHTER MINDSET



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As we face the dynamically and exponentially evolving challenge of protecting and defending our assets in space, it is imperative that we now approach space operations with shield ready and sword drawn. General John J. Raymond, Chief of Space Operations for the United States Space Force, voiced, *"It's been clearly recognized that space is a warfighting domain. We now have a service that is focused on protecting and defending that domain. The United States decided to act on an opportunity, to not wait, but focus this new service to be able to move at speed or stay ahead of that growing threat and respond to it."*

ASCENDANCY is the occupation of a position of preeminence, power, or influence. To dominate in space, ascendancy must be our mindset. *Space as a warfighting domain is a reality - being a warfighter in the space domain is a realization.* Ascendancy starts with awareness but must become actualized. This space-mindedness compels a warfighter to internalize culture, externalize their contribution, and it gives that warfighter the mental agility and adaptability to face an existential threat with confidence, clarity of purpose, and certainty of victory. Seven elements frame the space warfighter mindset: *intellect, insight, interdependence, influence, instinct, investment, and initiative.*

Joint doctrine states, "Space Superiority is the degree of control in space of one force over any others that permits the conduct of its operations at a given time and place without prohibitive interference from terrestrial and space-based threats." The United States (U.S.) and its allies now acknowledge that we are operating on a new "field of battle." *Space is technical, trans-regional, multifunctional, and all-domain, and it may prove to be the most consequential terrain in modern warfare.* Undoubtedly, space must remain our nation's enduring asymmetric advantage, and our capability to protect critical national interests and project unmatched military might to, in, through, and from space sets the cadence of joint fighting forces. Our adversaries recognize and have weaponized space and are behaving in it as they do in other warfighting domains. What was relatively peaceful, permissible, and predictable, has become congested, contested, and competitive...and as the enemy continues to vote - leading beyond competition to crisis, conflict, and potentially combat.

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As a warfighting domain, the region of Space is by far the largest (and fastest) military operational area - 100 kilometers and up without known limits...functional and geographic...global and exo-global...persisting and transiting above every other operational theater...delivering combat capabilities and effects from the high ground to the last tactical mile. Space is a distinct and unique stronghold, and it has strategically moved from being the routinely requested *supporting* enabler of the terrestrial fight to being the regularly required *supported* capability from which to introduce, influence and impact every phase of war. Military space technologies, capabilities, and effects are more than a set of services; they are an element of national power and a show of strength that shapes and secures our society and projects power and stability across the MIDFIELD - military, informational, diplomatic, financial, intelligence, economic, law, and development framework. *Our domestic way of life and how we fight to defend it are dependent on the ability to operate in and leverage from space at will and without interruption.*

FACT...space-based capabilities are exposed and vulnerable to attack from both the Earth and space. Unlike the fog of other domains, there is little to no cover or concealment in space. *Until our mobility can outmatch incoming fire, our satellite forces are in no-man's land.* Our collection of occupied on-orbit foxholes must become a deep and extensive system of trenches to shelter and protect our main and outpost positions from assault. *We, as space warfighters, must dig in.*

Foreign nations are increasing their development of capabilities to challenge our freedom to access and operate in the space domain and are pursuing strategic positioning potentially beyond Earth's orbit that accelerate global reach and hold persistent combat advantage. From directed energy weapons, to close and zero proximity operations, and co-orbital kill vehicles, potential adversaries are developing and proliferating an arsenal that could disrupt or deny our civil and military activities. Nefarious actors view space as important to modern warfare and are fielding counterspace weapons to reduce U.S. and allied military effectiveness. Rapidly expanding threats emanating from ideological, irregular, proxy, non-state, and

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sub-state actors emboldened by the exponential growth in, and widening accessibility to, space-affecting technologies are adding complexity. *We are in a dogfight.* Our superiority in space is at an inflection point, and although the character of conflict is changing, the nature of war is enduring - it is a human endeavor, a clash of opposing wills, won first in the heart and mind.

To preserve our *ascendancy* and prevail in any future conflict, space analysts and operators must transcend into warfighters and see the domain through a different lens. *It is essential that we field technicians skilled at employing principles of war in their area of expertise and tacticians operationally focused on preparing and conditioning the environment to our favor.* Our vernacular has to be joint to fight joint. Beyond nominal operations parameters and historical characterizations, space warfighters must think, speak, (and behave) in terms of force presentation, timing and tempo, scheme of maneuver, patterns of life, commander's decision space, ways and means, laws and authorities, adversary options and off-ramps, weapons controlling, weapons and payload engagement zones, area search and area encroachment, target nominations and integrated fire solutions, reversible and non-reversible effects, revealing and concealing advantage, high value asset clearing and threat custody, point offense/defense, strategic messaging and misinformation, mission capability and battle damage assessment, etc. The mission must be *driven* by intelligence and *defended* by cyber to *dominate* in space. As in every other domain, space warfare requires us to be able to seize and exploit the initiative, command and communicate across the joint force, mass overwhelming combat power and effects, maneuver our capabilities with agility, place and keep the enemy at a disadvantage while keeping our assets in mission, secure our freedom of action by reducing our vulnerabilities, and maintain the element of surprise to keep the adversary uncertain, off balanced, and at bay. Whether on or above our Earth, space warfare must be baked into every land, sea, air, cyber, and space campaign and operational plan with clearly defined and prioritized objectives.

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ASCENDANCY ON THE INTELLECT FRONT: We must sharpen our most lethal weapon to place cognitively fit warriors in the battlespace at the right place and time to accomplish the mission. *Certainly, our space systems are exquisite, but our human capital is our advantage. The primary tool of our trade is talent, not technology.* We must recapitalize and recalibrate for next generation warfare, and improve how the operating force understands, requests, and uses space capabilities. The weight of effort placed on onboarding and developing talent determines more about our lethality than how we acquire and sustain ground and space-based systems or software. Meaningful investments must be made throughout the life cycle (cradle to grave) of human weapon systems - fueled and fine-tuned by an empowering human capital strategy underpinning a culture of teamwork, technical competence, tactical prowess, and bold courage. Against a near peer or peer adversary in space, it is not just about *what a warfighter knows*, but the *way a warfighter thinks* and *how the warfighter sees* the battlefield which will assure victory.

ASCENDANCY ON THE INSIGHT FRONT: Intelligence-driven space operations are integral to the command and control of all military campaigns. We must be able to gain a deep and accurate understanding of the threat, effectively integrate increasingly multifaceted sources, diagnose where and how the enemy has or will attack, employ artificial intelligence and bridge machines to fight from a synchronized, timely, and actionable stance, and be delegated authorities that allow warfighters to compete at the speed of that data and counteract at the velocity of the conflict. *Decision advantage is derived from smart sensor tasking, actionable indications and warning, as well as counterintelligence collections and sharing.* Efforts must be vectored toward informing the desired effect and be value-added for empowered warfighters to make insightful and impactful decisions; all packaged and protected from intrusion and secured under a classification construct that permits real-time and collaborative data verification and sharing. Bluntly, there is no space superiority without information superiority.

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ASCENDANCY ON THE INTERDEPENDENCE FRONT: Space enablers, augmentation, services, products, and effects impact every joint warfighting function and are quickly becoming enemy targets to deny, degrade, disrupt or destroy. Our continued preeminence in space demands a mission pivot from space traffic management for space situational awareness, to space domain awareness for space superiority. Space warfighters concentrate on translating strategic objectives into tactical operations and creating supporting effects and specialize at integrating complex technology into joint operations. *Throughout the range of operations, warfighters seek to maximize interdependencies to produce an array of options and opportunities.* Priority must be given to interfacing with and synchronizing land, sea, air, cyber, and on orbit capabilities to maintain unfettered access to space, negating the hostile use of space, analyzing, anticipating, and outpacing the adversary's objectives, camouflaging to counter our own predictability, and engaging offensively to overcome degraded and non-cooperative environments. From the terrestrial standpoint, combined efforts to isolate, interrogate, and interrupt enemy space object surveillance and identification collection is critical to securing the high ground. Neutralizing the threat demands adeptness at introducing multiple dilemmas to complicate an enemy's decision calculus and imposing outcome uncertainty to paralyze adversarial problem solving. For operations to move at the combat-speed of space, warfighters must command a high degree of comprehension for how blue, grey, and red forces use space to their advantage, a continual assessment of actions, intents, motivations, and resolve in space, and downrange decisions must be delegated to the frontline.

ASCENDANCY ON THE INFLUENCE FRONT: We must mature relationships, doctrine, policy, and treaties. Space capabilities help national leaders implement American foreign policy and, when necessary, to use military power in ways never before possible. Through space effects, the U.S. is better able to sustain and extend deterrence to its allies and friends coexisting in a complex international environment. As warfighters, it is fundamentally important that we understand our competition's strategy in space so that we can surgically apply pressure to

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paralyzing points, influence responsible behavior, and alter their expected end game. *We can only deter from a position of strength.* Establishing and messaging our own flash points and responses, with multilateral commitments to defend them, is core to deterrence and off-ramps for de-escalation. Margins with consequences must be unwavering, and there should be no question in the hearts and minds of any opposition that the U.S. and its allies stand ready, willing, and able to project space power to ensure our nation's space superiority. Boundaries will become exponentially harder to enforce if space capabilities and competition continue to outpace doctrine or recognized "rules of the road." Along with fluency of national alignments and regional entanglements, mature international agreements and geo-political treaties, codified engagement rules, forensics, attribution, enforceable space laws, and a deep magazine of reciprocal responses must be callable to effectively dictate desired actions in the domain.

ASCENDANCY ON THE INSTINCT FRONT: Warfighters are innate risk takers who value effectiveness ahead of efficiency, press the envelope, but remain responsible stewards of resources, respecting existing space capabilities are extremely high demand and low density. In the profession of arms, warfighters must be change agents who approach and take accountability for problem finding and accelerate problem solving. *Anticipating and embracing change as opportunity gives us an intuitive edge.* Forecasting what is needed next and deliberately innovating for advancement rather than difference is built on subject mastery, which dramatically increases the odds of achieving an advantage. When we integrate to innovate, the sum effects are an order of magnitude greater than the individual parts, allowing for "best of breed" applications beyond the limits of intended sole use design. Therefore, a warfighter-in-the-loop, proficient in space power and warfare principles, must inform capability development to delivery with tactics, war-gaming, stretch-to-stress scenarios, and "live fire" events, not just performance measurements against technical requirements. In addition, stakeholder diversity and early end user inclusiveness is paramount to fostering and fielding a formidable force, able to outthink the opponent, and postured

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to meet and win the today, tomorrow, and day after tomorrow fight.

ASCENDANCY ON THE INVESTMENT FRONT: *Our leadership in space technology underpins our ability to achieve national security objectives.* This requires a healthy industrial base, improved science and technology resources, an attitude of risk-taking and innovation, and policies that support international competitiveness. There must be a concerted whole of government understanding of our dependencies on space, a demand signal placed on our private and public sectors to research, develop, and resource for more space capability, a communal appetite to deliver consequences for irresponsible actions in space, and a reverberating outcry shared across political aisles to protect and defend the space domain. We must also be able to understand each adversary's tolerances and have the resolve to operate right up to the point of brinkmanship, but below the threshold for expected escalation, fortified by space faring nation partnerships and coalition commitments to deter, diminish, and defeat threats to advancing our interests in space.

ASCENDANCY ON THE INITIATIVE FRONT: We are engaged in a strategic competition. Warfighters must be sensors, synchronizers, and shooters, always ready to elevate and perform with mastery and precision to preserve peace or win a high-end fight. Ultimately, the space warfighter's mindset must be rooted in an unwavering ethos of competence, steeped through an effects-based continuum of space teaming, education, experience, and professional development (STEEP). Moreover, every space warrior must be three-dimensionally oriented on the terrain of the domain - intelligence, cyber, and space - with each leg of the triad brought to bear with unity of effort. *Space warfighters appreciate the what, when, and where, but care more about the who, how, and why.* Building upon a Sun Tzu principle, to war in the space trenches against a skilled and thinking foe, we must know our enemy, what our enemy can do, what our enemy wants to do, and what our enemy is willing to do.

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ASCENDANCY is the reason space has been fortified with a domain-dedicated combatant command and a space-focused military arm...our space superiority is being challenged, and in ways paralleled or outpaced by peers with far less dependencies - who may be willing to wager more to win. The Pearl Harbor or 9/11 moment of the next major conflict will likely be fired to affect space. Left unchecked or unprepared, the power to project, orchestrate, and achieve strategic objectives and outcomes may decisively shift. *It is vital that our mindset ascend from how we would operate should a war extend to space... to how we will fight through and prevent a war from ever extending from space.* As General James H. Dickinson, Commander, United States Space Command, asserted, "We will achieve our end state goal of a team of warfighters who outthink and outmaneuver our adversaries and enemies, and if necessary, win through space combat power - so that there is never a day without space."

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ON GUARD!

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