

Gen. Stephen Whiting's remarks at Space Symposium 40 keynote address Apr. 8, 2025

Thank you General Hyten for that kind introduction, and good morning to everyone, and thank you to the Space Foundation for the invitation to speak at the 40th Space Symposium. 40 years, that's an incredible milestone, and whether this is your first symposium or your 40th thanks for being here this morning.

As we talk about our interests in space, you know, 40 years ago was the mid-1980s and as you can see, that was the time of the Brat Pack movies, Michael Jackson albums and plaid clothes. And I still have a closet full of plaid clothes, that will one day come back into style.

It was also when the first version of U.S. Space Command was created under President Ronald Reagan, because of the importance of space and the threats we saw back then in the space domain. The mid-1980s were also when our top minds first started thinking about what a space war might look like.

[Video excerpt from Spaceballs]

All right, great 1980s movie there "Spaceballs." But all joking aside, in the 1980s we were thinking about how space could be used to support President Ronald Reagan's clear approach to national security, which was peace through strength. He stated that the defense policy of the United States is based on a simple premise, we maintain our strength to deter and preserve aggression, or probably to defend against aggression, to preserve freedom and peace. And of course, our first president, George Washington, said to be prepared for war is one of the most effective means of preserving peace. Now, President Reagan's desire to end the doctrine of Mutually Assured Destruction even led him to envision a Strategic Defense Initiative (SDI) composed of space-based missile tracking layers and space-based interceptors to defend our homeland against nuclear missiles. He once famously said of the doctrine of MAD, "Wouldn't it be better to save lives than to avenge them?" Now, due to the end of the Cold War, SDI never fully came to fruition, however, it contributed to many of the advanced space systems that we operate with today.

Now, building on this legacy of those who have come before us, U.S. Space Command is back, reestablished in 2019 under the leadership of President Trump, who said at the time, "Those who wish to harm the United States, to seek to challenge us in the ultimate high ground of space – well, it's going to be a whole different ballgame." And a different ballgame it is. Our opponents, most notably China, have accelerated the terrestrial and on-orbit space weapons, expanded their space-enabled kill chains and are moving at breathtaking speed. In fact, I now say they're moving at jaw-dropping speed, and they've deployed vast arm arsenals of missiles, all deliberately fielded to threaten our homeland and the joint and combined force.

As our opponents have upped their game, so have we. Given this threat environment that we now find ourselves in, there is no longer any debate that space is a warfighting domain. That said, there has never been a war in space, and we don't want a war to start in space or to extend into

space. And war in space is not inevitable, but we must apply our best thinking to be ready. Which is why, over the past year at U.S. Space Command, we've developed Elements of Victory, our best military judgment for what we think we need to win in a conflict. Now, if we are ready to win, that will allow us to deter such a war and to preserve the peace. Now these five Elements of Victory are informed by lessons learned in other domains, from the best thinking across our Joint Force, exercises and modeling and simulation, and they tell us what we need for war-winning advantage and how we will win.

Now, the first Element of Victory is about being ready for the most stressing scenario, which would be operating through a first strike from an undeterred adversary. To be successful in such a scenario, we must ensure that the space capabilities the nation and our Joint Force rely on, the space systems which are essential for victory, continue to operate during and after an unprovoked attack. Our ability to quickly anticipate, defend against, recover from and respond to a wide range of conditions, threats and scenarios will be possible because of the overall resilience and defensive capabilities of our integrated space enterprise.

Now the greatest, existential threat to our nation is a missile attack paired with a weapon of mass destruction. Now, whether ballistic, hypersonic, advanced cruise or even a fractional orbital bombardment system, our legacy space systems, space domain awareness sensors, missile warning and defense satellites, and our SATCOM satellites and key links that we use have been key to providing warning against such threats in the past. But now to counter these threats, which are proliferating and democratizing, U.S. Space Command is fully supporting President Trump's Golden Dome missile shield for America, a whole-of-department effort to rapidly strengthen our homeland defenses. And in fact, we all know that space will be foundational to the success of the Golden Dome.

Now as stated in President Trump's executive order, U.S. key efforts include accelerating development of new missile tracking satellites like the hypersonic and ballistic sensor tracking system as well as space-based interceptors. Now, as we answer the requirements in President Trump's executive order, U.S. Space Command is partnering with U.S. Northern Command, Missile Defense Agency, the Space Force and other stakeholders to write an initial capabilities document aimed at defining the capabilities-based requirements that the Golden Dome architecture will need.

Now, while these efforts are ongoing, we've also been modernizing our NC3 capabilities in space. But to truly be ready to operate through a first strike, there is work to do across all of our mission areas. For example, in our SATCOM mission area, something that we call enterprise satellite communications management and control, we are transforming our SATCOM resiliency by moving away from labor intensive methods using stovepipe systems to automated systems that can maneuver between orbits and between different frequency bands to outpace our adversaries. Now, making SATCOM missions more robust and responsive and resilient is vital to meet the needs of our Joint Force on tactically relevant timelines.

Now, our second Element of Victory focuses on our ability to quickly and seamlessly transition from crisis to conflict so that we are ready when the first shot is fired to support the Joint Force. Through advanced condition setting related to authorities, international agreements, basing and access requirements, force posture and indications and warning, we provide national leadership, increased options and agility. Moreover, through campaigning, rapid learning, adaptation and proactive partnership, U.S. Space Command gains the ability to quickly transition to conflict and prepare to contribute to the Joint Force fight early. Again, on operationally relevant timelines and with a ready and lethal force.

Now in 2024, to improve our ability to set conditions in the space AOR (area of operations) mitigate risks and strengthen deterrence, U.S. Space Command signed our first ever campaign plan. The plan integrates and synchronizes our operations, activities and investments with our key stakeholders in the Joint Force, across the interagency and with our key allies, and it establishes a foundation to maintaining advantage in space. Leaving no doubt to our opponents that we are stronger and more capable in space than they could possibly imagine.

Now, to ensure we maximize our readiness for day-to-day operations, so that we are ready for conflict, we are operationalizing the command's first-ever experimentation strategy and artificial intelligence and machine learning strategy. Our priority for both of these strategies, experimentation and AI/ML include integrated space fires, resilient, timely operational space command and control, missile defeat effects, enhanced battle space awareness, space systems cyber defense, and the business processes of our command including sustainment and logistics. Now, not surprisingly, these key priorities match our priorities in our integrated priority list, which say, what are the capabilities we need to be successful in the environment we now find ourselves in.

A couple of examples of how we're trying to operationalize these strategies, we recently addressed space domain awareness gaps by fast tracking commercial technologies with our Marine component, MARFORSPACE. Now our Marine component identified an off the shelf solution, and with rapid experimentation and funding and testing, we could field tailored solutions by 2027 to help us better track missile threats that come out of China.

Additionally, the Maven Smart System has advanced from concept to operations, helping us manage adversary space order of battle, boosting space domain awareness. And it has been integrated into our Joint Operations Center, and we now are considering it for space control missions as well. The Maven Smart System uses large language models to help us better anticipate the threats that are coming and then integrate sources from across the intelligence community as quickly as possible.

In our JOC, Maven streamlines the tactical reporting between SPACECOM and subordinate operation centers to assess risk and gain decisional advantage. Just last week, the Maven team was with us and concentrated on a 72-hour sprint, or hack, as we call it, on our AI/ML priorities

using a new large language model at the Top-Secret level for our accelerated SDA and decision making.

Additionally, last year, I announced that we were moving forward with a pilot to fuse missile warning and missile defense data onto a single pane of glass. Since that time, we've developed our initial data integration layer, where we are now demonstrating our initial missile warning and missile defense pilot, including the initial stages of integrating with GCCS-J data. And now we're moving forward with operationalizing this system and placing it on our JOC floor. And in coming months, we will be adding additional missions to that program.

Now our third Element of Victory highlights that to safeguard America's interest in space, and to maintain America's leadership there, we must synchronize the efforts of all stakeholders across organizational and national boundaries. This synchronization is enabled by our command-and-control concepts and relationships to include integrated campaigning and operational planning, tactics, techniques and procedures and timely, secure and resilient communications across the integrated space enterprise with our Joint, interagency, Allied and commercial teammates. And we've spent a lot of time over the last year at U.S. Space Command, working to operationalize our relationships in space with our most capable allies. And one example of that, that I'm proud to announce here for the first time, is that the U.S. and France recently conducted our first-ever bilateral rendezvous and proximity operation to demonstrate combined capabilities in space in the vicinity of a strategic competitor's spacecraft.

And let me tip my cap to Major General Philippe Adam and his team at the French Space Command for their professionalism and can-do spirit. Merci beaucoup Philippe, that's the only French I know.

Another area of emphasis this past year has been continuing our ability to partner with U.S. commercial space operators. America's rapidly expanding commercial space sector provides a significant asymmetrical advantage over our strategic opponents. And to maximize this advantage, U.S. Space Command last year updated our Commercial Integration Strategy focusing on three key areas, identifying and advocating for commercial systems and innovations, incorporating and operationalizing commercial capabilities and informing and protecting commercial partners. Now the commercial Integration Cell, which many of you are familiar with in our Joint Commercial Office, are two practical applications of this strategy. As I promised last year, we have grown the CIC by seven companies over the past 12 months, now totaling 17, enabling us to operationalize the tri-seal commercial space partnership with the National Reconnaissance Office and the National Geospatial Intelligence Agency.

Additionally, the JCO now has 18 partner-nation members and NATO as participants, who all work together to provide non-classified commercial data from 17 commercial companies to increase space domain awareness for the United States and our partner nations, and their data has been critical to tip and cue government systems when interesting and unexpected events and situations happen in space.

Now, one of U.S. Space Command's greatest strengths is our leadership of the Multinational Force – OPERATION OLYMPIC DEFENDER (MNF-OOD). And over the past year, we've made significant strides operationalizing MNF-OOD with the addition of France, Germany and New Zealand. And we now number seven nations, and together we've conceptualized requirements for our multinational force, we've developed the first MNF-OOD CONOPS (concept of operations), we've outlined national contributions in our OOD OPORD, and we've created a space domain awareness CONOPS. We've also welcomed the arrival of the New Zealand liaison officer to our headquarters, meaning that all MNF -OOD countries now have representatives sitting alongside of us, at U.S. Space Command, and this week, we'll sign and publish our first-ever MNF-OOD campaign plan.

Now, after months of hard work, I'm thrilled to announce that MNF-OOD is now IOC at seven, and what we mean by that is we've achieved initial operational capability with seven member nations. And I'd like to ask the six OOD international liaison and exchange officers that are sitting here in the front in the VIP row to stand and be recognized. (applause)

Thank you for all your outstanding work keeping our countries linked together, because we are definitely better together when we operate these partner nations in space. Thank you. And while I'm proud of all this substantive progress that we've made collectively during the past year in MNF-OOD now, let me show you what people really care about.

As you can see on the screen, we now have a new MNF-OOD emblem and patch, and I look forward to wearing that in the weeks ahead.

All right, our fourth Element of Victory focuses on the fact that to win in a protracted conflict, we must maintain space capabilities beyond the initial stages of when the war starts. This longevity depends on our ability to deploy, regenerate and reconstitute space forces. Now, sustained space operations require the right mix of responsive launch, sustained maneuver and logistics to allow for the operational availability movement and maneuver required to achieve a position of advantage in space over an adversary. Our ability to sustain combat capability in space across a wide range of scenarios, conditions and threats is essential to our resilience and lethality and accomplished by the mobility and endurance of our integrated space enterprise.

There's an old saying that amateurs talk strategy and professionals talk logistics, and this is true in space. And we can no longer assume that a war that starts in or extends into space will be short. We must prepare for a protracted conflict. To be successful, our sustainment activities must be robust in space and also right here on terra firma to ensure the survivability and resilience throughout every phase of conflict. Sustaining until the mission is complete is essential to our success. China continues to launch refueling capable satellites and improve their on-orbit, sustainment and maneuver.

White papers and PowerPoints that talk about doing these kinds of things, those are important. they can only take us so far in deploying game-changing maneuver capabilities. So, to get after

this challenge, I'm excited to announce today that U.S. Space Command is co-sponsoring an effort with SpaceWERX on sustained space maneuver we will soon be identifying 10 proposals for \$1.9 million each in funding over a 15-month period of performance. This effort will continue to invest in the most promising technology from commercial industry to help us solve the sustained space maneuver challenge so we can bring this joint function to the space domain.

We must continue widening our advantage over our adversaries in lift, heavy lift and super heavy lift. SpaceX's Starship, Blue Origin's New Glenn, ULA's Vulcan and Rocket Lab USA Neutron all come to us from American commercial space industry, which has transformed space as we know it. Now we must leverage this massive and growing lead in space lift to outmaneuver and outpace our opponents.

The final Element of Victory is both a standalone requirement and it is dependent on the other four elements. The complexity and expanse of space challenges the notion of having superiority at all times and all places. However, space superiority can be achieved at a time and place of our choosing, to close friendly kill chains and disrupt adversary kill webs. Integrated space fires and lethality ensure we gain and maintain space superiority when and where we need across a wide range of scenarios, conditions and threats. Space superiority protects the key space effects we must provide to our nation, to the joint force and to our allies, so that they have the capabilities they need. Space superiority also helps us protect terrestrial forces and our homeland from the space-enabled attacks of others. Achieving space superiority requires the integrated and synchronizing all of the effects from across our enterprise.

Consequently, our ability to achieve space superiority is foundational to deterring our adversaries and winning our nation's wars.

At U.S. Space Command, we talk about three moral responsibilities we must fulfill. First, we have a moral obligation to the nation, to the Joint Force and to our allies, to provide them the space effects they implicitly assume they will have through all levels of conflict. Second, to ensure we meet that first moral obligation, we must protect and defend our systems against the threats now arrayed against them. And third, we must help protect our homeland, the Joint Force and our allies, against the space enabled attack of others.

To put it simply, without space-based capabilities, the Joint Force cannot shoot, cannot move and cannot communicate the way they need to at the speed and scale necessary to win on the modern battlefield. So, when necessary, U.S. Space Command will close our kill chains and disrupt our adversaries' kill chains to achieve space superiority at times and places of our choosing, just as other combat commands achieve superiority in their AORs. Doing this requires us to understand, decide and act in space faster than any of our opponents, which is why we've made space superiority capabilities, or integrated space fires, as we call it, our top right requirement.

But space fires aren't enough. Our space kill chain starts with the requisite space domain awareness capabilities for timely detection, tracking and characterization of space objects to feed

our command and control systems. Once fully operational, Silent Barker, the Space C2 programs of record and the future deep space advanced radar capability will significantly enhance our domain awareness. To help field better SDA capability more quickly, U.S. Space Command supported a strategic funding increase from the Air Force Research Lab through SpaceWERX and AFWERX, which will result in LeoLabs deploying a next generation seeker class ultra-high frequency radar site in the Indo Pacific region. This effort will improve DoD's ability to minimize gaps in SDA coverage and provide early detection and tracking for space and missile launches in China.

Next resilient, timely command control is critical for space operations and supporting terrestrial operations in which space effects are vital. As part of our year of command control, or year of C2, U.S. Space Command identified four high priority kill chains that require integrated C2 networks for connecting sensors to effectors. And we're working with the Department of the Air Force, the U.S. Space Force, Missile Defense Agency and the NRO to ensure that we have the necessary integration across multiple acquisition programs to field a more agile C2 capability, increasing kill chain speed and lethality by 2027.

Another area of focus for U.S. Space Command is working to better integrate special operations capabilities from U.S. Special Operations Command and cyber capabilities from U.S. Cyber Command into our operations, and this is a combined effort with SOCOM, CYBERCOM, STRATCOM and SPACECOM to conduct early and integrated planning and coordination to improve our effectiveness and our ability to operate at tempo and scale. Because, like us, our opponents rely on terrestrial based space enabling infrastructure that can be held at risk through all-domain operations.

And it's time that we can clearly say that we need space fires, and we need weapon systems. We need orbital interceptors. And what do we call these? We call these weapons. And we need them to deter a space conflict and to be successful if we end up in such a fight.

[Video excerpt from The Princess Bride]

All right, another great 1980s movie. But you know, weapons in space used to be considered inconceivable, but now space-based interceptors are a key component of how we win. We are a combatant command, and like all other combatant commands, we must be dominant at warfighting and war winning. And dominant warfighting in space requires credible, acknowledged, kinetic and non-kinetic capabilities, fires and weapons. Acknowledging this reinforces a distinct space warfighting ethos, ensures that threats are met with the right capabilities, and restores credible deterrence in space. As our Secretary of Defense has emphasized, regarding the warrior ethos, we must have confidence, courage, pride and responsibility. And by matching threats to capabilities, we can better communicate risk and readiness. We must re-establish deterrence by clarifying capability, credibility and communications.

President Reagan once said, “Deterrence means simply this, making sure any adversary who thinks about attacking the United States or our allies or our vital interests, concludes that the risk to him outweigh the potential gains. Once he understands that he won't attack. We maintain peace through our strength. Weakness only invites aggression, but we must not forget peace is our desired outcome.”

War in space is not inevitable, and U.S. Space Command remains committed to preserving space as a domain for peaceful exploration and use. NASA's Artemis program will soon take humanity back to the moon, paving the way, perhaps for a permanent lunar base. And in my lifetime, I think we'll witness the first humans walk on Mars and see commercial industry exploit the resources of the moon and asteroids to make our lives better here on Earth. And in my grandson's lifetime, who just turned one, I think he will see a permanent colony on Mars and mankind wandering further throughout the solar system.

But this incredible future won't happen on its own. It's one we must safeguard, shape and defend together to not only protect our interests in space, but also to protect that future, which is coming. And I'm truly honored to stand beside each of you to ensure that happens. So, thank you again for being here today and thank you to the Space Foundation for 40 years of hosting the world's best space conference.