

Spacepower Security Forum 2023 | Opening Keynote: Gen B. Chance Saltzman, Chief of Space Operations

[00:00:00] **Lt Gen Dave Deptula, USAF (Ret.):** good morning, everyone. I'm Dave Deptula, dean of the Mitchell Institute for Aerospace Studies, and I'd like to take the opportunity to welcome you all today to Mitchell Institute's second annual Space Power Security Forum. It's our privilege to host all of you as we take a look and explore space power's role in defending and empowering our nation.

Now, what I'd like to do before I introduce our first session is to direct your attention to the screens cause what we'd like to do is tell you just a little bit more about who we are and what we do.

Our purpose is to advocate, explain, and educate the virtues and values of air and space power. We are the nation's only singular think tank that's focused on those two subject areas and we're pretty proud of that. I think most of you in this room understand that the way we do that is through hosting a series of interviews and discussion sessions with the Air Force and the Space Force senior most leadership, as well as the rest of the Department of Defense. And then we do a whole series of full-up studies and reports.

We have a very robust podcast series and then just making sure that close connectivity exists so that we can help our senior leadership in both the Space Force and the Air Force get out the important points and messages that they feel are critical to helping them in enhancing their particular o- objectives. And, obviously, the other part is informing the resource debate because too often our sister services of which we wholeheartedly believe in their strength and partnership in our joint organizational construct of war fighting.

We also believe that, er, there needs to be stronger advocacy with respect to the allocation of resources. So that's a big piece that you see the Mitchell Institute, involving itself in. Now, in 2023, and I can't believe that it's here, Mitchell Institute will be celebrating its 10-year anniversary. And we've grown from humble beginnings to where we are today, and that wouldn't have happened without support from many of you sitting in this room. And to that point what I'd like to do, number one, is to recognize our AFA President and CEO and good partner, and Lieutenant General Orville Wright. Orville, thanks very much for being here today.

And for all our friends and sponsors, I really can't thank you enough for your support as we work to enhance America's thinking when it comes to space power in particular. We launched the Mitchell Institute Space Power Center of Excellence in 2021, and it's been one of our most important phases of growth. The time was right, obviously, with the stand up of the Space Force as well as the final realization of our nation's leadership, that space is not a calm domain, but is in fact a war-fighting domain just like all the others.

We're particularly fortunate to have General Kevin Chilton heading up this endeavor. The insights and command perspective that he brings to the portfolio are absolutely second to none, a fighter pilot, a three time astronaut, commander of Air Force Space Command, and commander of US Strategic Command, that's resume that's hard to beat. Also, without the generous support of folks like General Atomics and Lockheed Martin, along with several other partners, establishing this center would simply not have been possible. So thank you very much for your confidence and continued confidence in us.

And last but not least, thank you all for joining us today for what promises to be a very insightful day, filled with activity. And for those of you who are interested, we're using the hashtag, MISPAEDAY23, all one word on social media. So with that, what I'd like to do is ask my good friend, General Chilton to come on up to the podium, to introduce our first speaker. Chilli.

[00:04:07] **Gen Kevin Chilton, USAF (ret.):** Thanks, Dave. For those of you who don't know, Dave and I go way back to when we were captains together. In fact, when I was checking out in the F-15, he gave me my first simulator. Didn't grade me too hard, so I still appreciate that, Dave. Thanks so much. Again, I wanna echo Dave's welcome to everyone that came out this morning and it, and has invested a day of your time in being here today. And we couldn't have the influence that we hope to have, the benefit of the Space Force and National Security, without your participation.

It's my distinct honor this morning to introduce our first speaker, General Chance Salty Saltzman, the chief of space operations. As the second ever chief of space operations in the Space Force history, General Saltzman is uniquely equipped to shape the fortune, the future of the Space Force, ensuring that guardians have the organization, training, and equipment necessary to shape, to deter and if necessary to fight and win in that domain. This is so important today given the increasingly contested, congested, and competitive nature of the space domain. And his insights are invaluable as is his leadership.

For as a member of the Joint Chiefs of Staff, he serves as a military adviser on national security space activities for the secretary of defense, the National Security Council, and the president of the United States. General Saltzman has proven himself as a thought leader in space operations, and has pushed the guardians under his command and the entire defense space system to innovate. Most recently, he displayed this by articulating his competitive endurance theory of success, which we'll talk more about later and perhaps hear a little bit about this morning.

So first, we'll ask General Saltzman to offer a few remarks this morning, and he has graciously agreed to take some questions from the audience at the end of his remarks. And at that time, if you would please, raise your hand if you have a question, and we'll bring a microphone to you so that it can be on the recording of this event, so folks who watch it later can appreciate both your question and his answer. Without further ado, Chief Saltzman, the podium is yours. Welcome.

[00:06:21] **Gen B. Chance Saltzman, CSO, USSF:** A much younger Colonel Saltzman had the opportunity to sit in a room a little bit larger than this. I think there was probably a 1,000 people. It was a Strategic Deterrence Summit, and General Chilton was at a podium a lot like this one. And he was articulating strategic deterrence in a way that quite frankly I hadn't heard before even though I've been thinking about deterrence as a former ICBMer for many years. And I remember thinking, "How in the world can someone with the schedule that I'm sure a General Chilton had to keep and manage, how did he possibly find the time to understand, think about, and develop an advocacy, and be able to articulate for something as important as strategic deterrence?"

And in the years that rolled by, I got a few more stars on my shoulders, and my schedule has become far more congested and contested, [laughing] and so on. Thinking about that, I've come to learn that I still have no idea how he's able to [laughing] manage the schedule and still think about those terms. Sir, it's a real honor to be introduced by you. Thanks so much for that kind of introduction. Thanks for your leadership, building key venues like this. And General Deptula, let me add, continue thanks to the Mitchell Institute's advocacy and leadership on these important topics.

We need the intellectual gravity that this organization and others like it continue to show, how our nation, to continue to show how our nation thinks about warfighting. War fighting that's all domain, integrated, global and executed now at orbital speeds, war fighting that now must account for threats within the space domain. It's this shift in the character of war that necessitated the creation

of the US Space Force. And for the last five months, I've had the privilege of serving as the chief of Space Operations and leading the guardians of the Space Force. They are without a doubt the brightest and boldest America has to offer.

The Space Force is the world's preeminent space warfighting entity because of them. We must maintain that status so that the threats we face in, to, and from space are never able to undermine the American prosperity and security derived from space. As I know this audience knows and recognizes, space capabilities shape the modern way of war, and maybe more broadly, the modern way of life. Because of how it's been designed over the last two decades, without space, the Joint Force's ability to project power and execute operations will be degraded.

The Space Force develops and trains guardians, designs and acquires space systems, and operates those systems as part of the Joint Force. In accordance with the strategic direction provided in the National Defense Strategy, and the Department of the Air Force operational imperatives, we are rapidly developing a resilient space order battle to make it less vulnerable to attack while also working to defend the Joint Force from space enabled targeting. Should competition turn to conflict, the Space Force will be prepared to rapidly transition to a wartime posture against a peer adversary with the appropriate systems.

However, our goal is a safe, secure and stable space domain. To achieve this goal, we must account for a dramatically increasing number of objects on orbit. Let me offer you what I think are some remarkable numbers. In 2022, space launch providers around the world conducted a record 177 launches. That's a 31% increase from the previous year. Those launches put 2,215 payloads into orbit, a 29% increase from the previous year. This increase in launch cadence and number of payloads in orbit increases the stress on our space domain awareness capabilities.

Space Delta 2, responsible for the space domain awareness mission, currently tracks approximately 48,000 objects in space, a 16% growth in objects from just the previous year. Of those objects, 7,100 are active payloads a 37% increase in one year. While cooperative active payloads are manageable, these numbers also include expanded rocket bodies, inactive satellites, and uncooperative payloads and debris, which further congest and complicate our understanding of the environment. Proliferated mega-constellations, numbering in the hundreds and even thousands of satellites, account for a growing percentage of launches and active payloads on orbit.

Of the 177 launches last year, 41 deployed satellites for mega-constellations, that's a 51% increase from the previous year. Those 41 missions put over 2,000 payloads on orbit. The International Space Station had 1,486 reportable close-approach events with space debris or spacecraft in 2022. That's a 233% increase from the previous year. The increase was largely due to the Russian anti-satellite test in November 2021, which created at least 1,500 pieces of trackable debris, caused over half of the conjunctions, and forced the ISS to maneuver twice to dodge debris.

That's just a snapshot of the challenges we face as the domain becomes more congested. As this group all knows, space is also undeniably a contested war fighting domain. China, our pacing challenge, has the most stressing set of capabilities in, to, and from space from which the Space Force must maintain the technological advantage and readiness to defend vital national security interests. Russia, Perhaps less capable, still remains an acute threat, and is deploying asymmetric counterspace systems meant to neutralize American satellites.

Both have a range of operational counterspace capabilities, including terrestrial lasers to disrupt and degrade satellite sensors, electronic warfare jammers targeting GPS and satellite communications, as well as anti satellite missiles. They have shown no qualms about testing these systems as we saw most recently in that November 2021 test. And they have every intention of using counterspace weapons in conflict as we see in the war in Ukraine. We've seen cyber attacks against satellite internet providers as well as persistent SATCOM and GPS jamming. Both are working to use space for their own military purposes.

The PLA's ISR satellite, satellites work in conjunction with position navigation and timing SATCOM satellites to enable Chinese kill webs and long range precision guided attack. Russia has shown an ability to adapt and use commercial ISR systems like the recently sanctioned Chinese firm that provided SAR imagery to the Wagner Group. In response to the rising security threats in space, Congress established the Space Force to protect its US interests. This charge has two components. First, we must protect US-based capabilities so that the nation has unfettered access to the domain.

And second, we must defend the Joint Force and the nation from space-enabled attack. Space superiority is the ability to accomplish both at a time and place of our choosing. Military services are organized around domains, air, land, and sea, because contesting a domain with military force is a complex endeavor that requires institutional specialization. Space superiority requires a similar level of

specialization. This mission is why the Space Force exists and an operational outcome clearly in the guardian's purview. To achieve this outcome, we are prioritizing three key efforts. First, we're gonna field combat-ready forces. Second, I'm gonna amplify what I call the guardian spirit. And third, we're gonna partner to win.

Now, our adversaries seek to supersede our advantages in space, and we cannot let that happen. We will provide the forces, the personnel, the partnerships required for the Space Force to enable US Space superiority. My first priority is to build resilient-ready, combat-credible forces. A resilient force can deter attacks and when necessary withstand, fight through, and recover rapidly from them. A ready force has the training tactics, operational concepts required to accomplish its mission across the spectrum of operations from competition to a high-intensity conflict.

A combat-credible force has the demonstrated ability to execute and sustain operations in the phase of a determined adversary. Space Forces must be all three, resilient, ready, and combat-credible if they're going to outcompete adversaries, deter aggressors, and defeat our nation's enemies. Now we're conducting a transformational force design analysis based on current and future threats, operational needs, and even costs. The Space Warfighting Analysis Center plays a role in this effort by providing the modeling informed by extensive war gaming and prototyping.

That said, the analysis has been pretty clear. We must field resilient, effective systems and architecture. We also know we must emphasize cybersecurity, which starts with understanding the threat and building and hardening at the outset of our network design. It also means an active approach that sees our mission defense teams prowling the networks from nefarious actors and for the service to eliminate legacy IT infrastructure to reduce cyber vulnerabilities. To reduce the current first-mover advantage in space, our satellite constellations are shifting to be more proliferated, disaggregated, and distributed.

Just this week, our Space Development Agency conducted the first launch of its new Proliferated Warfighter Space Architecture. This first set of 10 satellites builds out, begins to build out the transport and tracking layers. Dr. [inaudible 00:17:14] team was able to execute this contract from order to orbit in approximately 27 months. And for those that have been around the business for a while, that's extremely fast. To enhance our ability to field combat-ready forces, we are experimenting with organizational constructs that strengthen readiness by building tighter connections between operations and acquisition activities.

For example, the 15th Space Surveillance Squadron in Maui is a great example of this concept. During my recent visit, I saw the synergy the 15th has by combining the operational space domain awareness mission under Space Base Delta 2 with the research and development mission for SDA technologies aligned with the Air Force Research Lab. The combination of operations and acquisitions expertise accelerated technological transfer from engineers and acquirers to the warfighters. As experiments like this demonstrate positive results, we're going to look innovative ways to apply the lessons we learn across the entire force.

Another key tenet of a combat-ready force is the ability to train like you fight. To enable this, the Space Force requires new, modern infrastructure to train guardians, develop tactics, validate performance of the systems. Fielding and operational-test-and training infrastructure will enable guardians to build readiness to fight and win a high-intensity conflict. Guidance must be able to execute missions with validated tactics and honed operator skills. To foster this, we're executing new, large-scale training opportunities like Space Flag and the Skies series of exercises.

Here, Guardian aggressors' function as thinking opponents to force other guardians to account for real-world adversaries. Through training, exercises, and orbital experimentation, we will develop, validate and continuously enhance tactics and operational concepts, thereby creating a force ready for the emerging threats. And my second priority, and it's only second because you can't talk about both at the same time, is to unleash the spirit of creativity, innovation, determination, and patriotism of our talented workforce.

Amplifying what I call the guardian spirit requires the Space Force to continue to embrace modern talent management processes so that we can not only recruit the best talent, develop them, but also retain them as an elite workforce and empower those guardians to succeed. The size and requirements of the Space Force present unique recruiting challenges. We receive more applications than we have positions available. Our focus must be selecting the right people who will embrace the guardian spirit, dedicate themselves to the accomplishment of our mission.

Future guardians must be recruited from across the United States from all backgrounds, ensuring the selection of high-quality people with diverse life experiences, thoughts, and expertise. This expertise will be critical in solving complex problems and executing our most difficult missions. The Space Force is implementing innovative recruitment practices to attract this talent. We are expanding digital recruiting efforts to include interactions with potential recruits

aimed at presenting the value of the serv- of service in the Space Force, training educational opportunities as well.

Our constructive service credit program allows experienced professionals from key fields to direct commission into the Space Force at ranks appropriate to their years of experience. The program is intended to recruit professionals who are already in the workforce, allowing them to skip ROTC or attendance at a service academy. The pilot program recruited seven cyber professionals from the private sector last year to become guardians, including one that we assessed at the rank of lieutenant colonel. The Space Force will maximize guardian talent with an innovative, modern talent management system that will train and educate the best workforce.

And although we still rely on our Air Force partners for sessions training, we are developing and implementing a space-centric curriculum for each of these programs to ensure our guardians are well-prepared for entry into the Space Force. Further, we will mature our relationship with the Johns Hopkins School of Advanced International Studies to provide mid and senior-level, professional, military education program. Now, one initiative I'm very excited about is our effort to integrate space reserve personnel. With congressional support, we will start integrating the Air Force Reserve space elements into the Space Force as a single component.

The proposed talent management system update will allow guardians to transfer between full-time and part-time duty status to pursue opportunities outside full-time military service, and subsequently return to full-time duty without barriers to reentry or detri- detriment to their career. This will strengthen our recruiting and retention efforts by providing unique, flexible career paths, and we look forward to working with Congress and our advocacy groups on this important initiative. My third priority is to strengthen the partnerships the Space Force relies on to accomplish our mission.

The Space Force maintains our deep relationship with the US Air Force, which provides critical support services, enabling the Space Force to remain focused on our key mission areas. For example, the Air Force Research Lab is a critical partner in researching and developing cutting-edge spacecraft that incorporate new propellants, position navigation timing, domain awareness, power collection and beaming technologies, not beam me up kind of technology. [laughing] You know what I mean. Our partnership with the US Space Command remains our most important Joint Force relationship.

The Space Force enables the United States newest combatant command by providing weapon systems, equipment, personnel, expertise and the execution of critical space operations required to accomplish those military objectives. And while the Space Force presents the preponderance of its forces to US Space Command, guardians are indispensable parts of military operations conducted by every combatant command. In 2022, the Space Force established service components to US Indo-Pacific Command, US Forces Korea, and US Central Command. Space Force personnel in those commands are already making tangible contributions to operations, training, exercises, and international security cooperation initiatives.

Strong relationships with combatant commands are critical to our success. We will use this service component model to strengthen space integration in all the combatant commands. The current geopolitical situation demands international cooperation to deter aggression and defeat adversaries. The US Space Force campaign support plan details the Spa- how the Space Force will expand and strengthen our global partnerships. Through our allies and partners, we gain economic and national security opportunities in space that would otherwise be impossible.

We are engaging with partners to prioritize and resource space capabilities, training and interoperability. We are building a regional space adviser program to develop guardians who will establish and grow lasting international partnerships. The Space Force is conducting or pursuing officer exchanges with key allies and partners. We plan to conduct exchange personnel with an increasing number and diversity of countries over the next few years. The Space Force is developing and executing training, exercises and, educational courses with allies and partners in mind.

Space training and readiness command offers a variety of courses already that have personnel from over 50 countries. I was just at one of our signature events earlier last week, visiting National Air Force Base to lead the Coalition Council component of our Schriever Wargame. Eight nations contributing at above unclassified levels, I'll say it that way. There were, there, collectively identified solutions to shared challenges. We engaged in meaningful dialogue, and it's helped us create a shared understanding of how the conflict in this domain may unfold.

Our space-flying exercise provides tactical-level training in a virtual battlefield. Just a few months ago, we executed the largest iteration of the event to date, with over 165 participants, including partners from Canada, Australia, and the United Kingdom. It is vitally important that we continue to expand these

opportunities to our allies and partners to ensure we collectively train together. Our history of coalition cooperation is an enduring and asymmetric advantage for the United States and our partners. Now, maintaining that advantage goes beyond training. It requires the operations of space systems in a cooperative manner.

Recent cooperative efforts include deploying US payloads on Nor- Norwegian and Japanese satellites. Our partners provide SATCOM and awareness capabilities, which mesh with our own to distribute costs and improve coverage. Concurrently, the Space Force has more than 200 foreign military sales cases with over 60 countries. We will further relationships with space-faring allies and partners through additional payload sharing opportunities personnel exchanges, training exercises, professional military education and other security cooperation initiatives.

Our allies and partners remain critical to deterring adversaries and defeating our enemies. Space power is a whole of government endeavor, and we continue to strengthen partnerships with our vital interagency mission partners as well. We are building relationships with the intelligence community partners to ensure national security requirements are met, including important connections with the National Reconnaissance Office. Space Force is growing relationships with National Aeronautics and Space Administration to support human space flight and space exploration missions, and with the Department of Commerce to support the transition of commercial and civil space traffic management missions to their Office of Space Commerce.

In addition, the Space Force continues to collaborate with the Department of State, both to encourage interoperability and to leverage existing and planned space capabilities of allies and partners. We will build and strengthen partnerships with the commercial industry, perhaps first and foremost. All commercial partners from small businesses and startups developing groundbreaking technologies, to large defense contractors producing proven capabilities at scale are critical to Space Force efforts to exploit what we have, buy what we can, and to only build what we must.

Once in place, the National Security Space Launch Phase 3 framework provides a mechanism for emerging, commercial launch providers to compete, while also maintaining a separate mechanism for requirements best served by mature providers with a certified record of mission assurance. This innovative approach protects capacity of the DOD's most techno- technically challenging missions while allowing emerging providers to compete when ready for the DOD's more commercial like missions. We're also using personnel exchanges, training

with industry, reverse industry days to drive integration and better understanding of each other's requirements.

Commercial services will increasingly fill growing requirements and augment military decision making. Commercial partners and services will also be key in pursuit of emerging capabilities such as advanced propulsion technologies, artificial intelligence, machine learning and in-space servicing, assembly, and manufacturing. Space Systems Command's Commercial Services Office has been established to leverage more commercial, off-the-shelf capabilities with speed and agility.

In closing, thanks for the chance to speak with you today. This is an important audience. We live in an era of increased congestion and competition within the space domain. The US remains the most powerful space-faring nation on the Earth, and the Space Force is the preeminent military space organization in the world. We will continue to evolve our force design informed by analysis, wargaming, and concepts. We also continue to build combat-ready forces each and every day, through the refinement of tactics, techniques, and procedures, via a new operational test and training infrastructure built to ensure our guardians can train like they fight.

Our potential adversaries seek to surpass the United States and challenge our advantage. We cannot and will not allow this to happen. Our guardians will outwork, outinnovate and outcompete our adversaries to ensure that we succeed. We will do everything we can to deter conflict and maintain stability in space, and I've seen our team in action. I know they'll be successful. Thank you again for your time today. As always, Semper Supra.

So much power here, huh? Over here.

[00:28:45] **Audience:** Thanks so much. Sir, thank you for your thoughtful comments. Quick question on your advice on sister services retaining cadre space professionals to integrate joint space capabilities in support of the Joint Force, sir?

[00:28:56] **Gen B. Chance Saltzman, CSO, USSF:** Yeah. It's a great question because we gotta wrestle with this. And I find that there's gonna be a balance as we make the decisions associated with that. On the one side, space is so critical to all of war fighting, it seems obvious that all the services would be trying to leverage it to make sure they can do their particular missions as capably as possible. So it seems like a natural question to start asking is, "Hey, how can we get more out of space?"

The balance on the other side is how do we wanna spend our resources the most efficiently and effective way as possible. Does it make sense to continue to consolidate those capabilities in one service? Or is there are there advantages, maybe cost or mission effectiveness, to distribute those across other services. There's no templated answer is the bottom line. But we've got good processes. Sometimes they take a little while to get through as we all know in the Pentagon.

But I think we have good processes that are asking those questions to make sure we get the balance just right. Yes, sir.

For many years, the it seems to me that the folks, the

[00:29:58] **Audience:** smart folks building space systems treated the ground systems as son of a step child and didn't get the resources that it really needed. General Hyten addressed that when he was commander of Air Force Space Command and put some immediate emphasis on that. And yet, I see that we're still, I don't think we're there yet. So I want to ask you, I know, I've read reports we that you guys are putting additional emphasis on upgrading and protecting our ground systems to support the satellites. Can you elaborate on that a little bit, what you're doing?

[00:30:27] **Gen B. Chance Saltzman, CSO, USSF:** Yeah. Absolutely. And Hon. Calvelli has done a pretty remarkable job, I think, leveraging his years of experience in this area to make sure that our space systems, on orbit systems are inextricably linked to the ground systems. I think there might have been a philosophy in the past that said you can decouple those capabilities, procure them slightly separately on different timelines, and achieve some level of efficiency or effectiveness doing that.

I think in the end, we found out that probably wasn't the most successful way. And so I, the way I understand Mr. Calvelli is working through this is he's thinking about it as a, as an end-to-end capability. Satellites on orbit are not worth anything if the ground system that requi- that they require for support is not equally as effective and in timing synchronized so that it's available when the on-orbit capability is available. And so it's the philosophy is, "Hey, we have to reconnect these."

The program includes ground nodes and networks, the RF link structures to get between space and ground, and then the on-orbit structures for space systems. That's one system that has to work interoperably, and i- is interconnected, and

can't be separable. I think just that mindset shift is gonna pay dividends. Yes, Sandra. I get to phone a friend, right?

[00:31:45] **Sandra Erwin:** Thank you General Saltzman. Sandra Erwin, Space News. You talked in your speech about the congestion and the contestive environment and that's why we have a space force. I'm wondering what questions you get from the units. You've been traveling and speaking with guardians. I wonder if there's still questions out there about, what really is the job of the space for us? There seems to be all these, always questions about that and, what do they really do? Are they, are guardians that you speak with around the world, do they have these questions? And what are some of the conversations that you've had with them on this topic? Thank you.

[00:32:18] **Gen B. Chance Saltzman, CSO, USSF:** No I appreciate that, Sandra. So one of the real joys of the job is being able to go out, pick a unit, and go talk to the young people that are doing the mission set. And first, let me just say, you all would be extremely impressed with what you see out there in the field. It's an amazing group of people young, bright-eyed, excited to do the job that they're asked to do. So they usually don't frame it like that.

"Why do we have a space force?" Or, "What is it we're doing?" Actually, they don't think in those terms. What they think is, "How do we accomplish this mission that we've been given as it changes right out from under our training." we're trained in a certain way and if they've been on a, if they've been on duty for a year, you just heard those numbers. So if you graduated from IQT, In-Initial Qualifications Training on space domain awareness capabilities a year ago, it's the nature of the problem has changed by a third.

And that, and the amount of objects that you have to apply your training to dramatically affects the outcomes that you can produce, the products that you can produce. So it's never about, "What are we doing?" It's about, "How do we keep up. What do we need to do? What can we do to help accelerate our training, do advanced training? How can we inform the requirements to develop the type of systems that we need to keep pace?" that's more of the concern, I think that I hear from the field. Not so much, "Why do we need to do this?" But, "How do we keep up? What can we do to better ready ourselves for this dynamically changing environment?" Yes, ma'am.

Thank you. Shelley

[00:33:55] **Shelley Mesch:** Mesch with Inside Defense. We've been hearing a bit more in the budget about space, BMC3. I was wondering if you could tell

me a bit about what are the top priority capabilities for you with BMC3 and what sort of timelines are you hoping for or looking at with those capabilities?

[00:34:14] **Gen B. Chance Saltzman, CSO, USSF:** Yeah, thank you. I, we've had I've some really good conversations about that and my first caution is always that when we label something, we actually do a disservice to meeting the requirements. So when we say BMC3, I, there's at least battle management, command capabilities, and control capabilities. And if you add communications to it those are radically different concepts. And so I always encourage people to ask, were we really were we really having the discussion?

What do we really wanna address? We are addressing each of those because battle management, at the tactical level, is gonna be increasingly important as we start talking about real-time decision-making necessary, from sensor to shooter in a high-intensity conflict. Battle management is not something that we've typically thought about from a space perspective. We've thought about it as very centrally managed long lead times for decisions, anomaly resolution was kinda one of the toughest things we dealt with from an operational perspective.

Now we're talking about war fighting timelines that are radically different. And then I also wanna break down into its essence, the kind of things we're talking about. I had the great opportunity to lead the Air Force's multi-domain command and control effort. And in that process, I got to talk to all the services at all levels of command and control to try to get a sense for what the e-essential elements are. And it won't surprise most of this audience to learn.

It's gaining and maintaining situational awareness, the ability to make operationally relevant decisions, and the ability to direct forces in a stress contested environment. The- If you can do those things, you have the ability to battle-manage and command and control forces. Now, those three elements have a lot of sub-elements under it, and that's where you have to start applying technologies. How much data can we get in? Do we have the machine learning, the artificial intelligence or just the basic automation to process the data quickly in an operationally relevant timeline?

And if you wanted me to focus in on one area, I would say the ability to rapidly move data and then contextualize it for operational decision with decision support software as quickly as possible. Those are some of the key areas where we're pushing fast on.

[00:36:29] **Diane Ashley:** Morning, sir. Diane Ashley with Deloitte. Imma steal this from General Purdy, I was talking with him about just joint contested

logistics, and the global supply chain, and how supply chain logistics is really becoming an operational war fighting space. And I'm just interested in your thoughts on how you think about that today and in the future?

[00:36:52] **Gen B. Chance Saltzman, CSO, USSF:** So one of the observations that I've made watching the conflict in Eastern Europe play out is you have on paper what was a very capable, well-equipped force rolling across a border, and then they were unable to sustain that fight. And if you don't take some sustainment and logistic lessons from that you're missing the big picture. There is no question that if you can't conduct sustained operations, the initial push is not gonna matter, not matter as much.

For space, sustainment takes on a different kinda character than you might think. This is not moving gasoline overland, right? That's not how we think about sustainment and logistics. So how have we defined those terms? And we are looking in-depth at what are the specific sustainment requirements for space capabilities. There are parts and there are things that need to move around, especially for our ground capabilities that enable all this.

But sustainment also means ability to rapidly change the software that's supporting you to pull in new data feeds, contextualize it rapidly. How fast can we make those? I see that as sustainment and maintenance of a capability. That's not software acquisition. That's maintenance of the current capability. Whatever I have now has got to be better tomorrow. And so we're looking at it in terms of what do I need to sustain a fight? And then how can I rapidly reconstitute and sustain those capabilities?

And I think there's just a different look for space than maybe some of the other domains. Okay. Let's go over here. Trying to go as, make 'em, make the mics walk as far as possible. [laughing] Give me time.

[00:38:26] **Audience:** Sir you've talked a lot about software and IT infrastructure driven capabilities in your last few responses, but also when you're speaking about cooperative operations connecting acquisitions to operations, things like that. And, we've seen over the last five, 10 years, the Space Force improve dramatically in their ability to, acquire innovative solutions from nontraditional vendors. But in software, there's still a lot of challenges and long time lines associated with acquisition and accreditation. How do you think about those problems and, kind of potential solutions for bringing that into software and IT?

[00:38:58] **Gen B. Chance Saltzman, CSO, USSF:** Yeah. Great questions. There's really two aspects of that. One is, do you acquire software the same way you acquire hardware? And I think we can all say no that maybe is not the best model to use. And then the question is okay then what's different and how do you do it differently?" So let's think about that for a second. And the other one is what do we, what questions are we asking to allow software to be put on our networks? How do we keep the networks secure?

What are the policy and processes by which we operationalize capability, software capability on a controlled network? So no easy answers for either of those. And I can't tell you, "Okay, get out your piece of paper. Here's the checklist." What I will tell you is that for the first time what I'm hearing, at least in the discussions that I'm present for, the right questions are being asked. And, this is an important and, fingers are being put in the chest of the people that own those policies to make tangible changes to revise the policies.

There's almost been an effort not a deliberate effort, but there's been a sense that these are so large, these are so hard of a problem, we need to study them before we know exactly how to fix them. I think the studies are complete. I think we know some of the fix actions and now it's about just changing our policies, changing our processes, and redefining what risk is and how we do risk management in both software acquisition as well as how we put software onto our networks in a secure, safe, stable way.

So we don't have answers yet, but we are asking the right questions. And I think the right owners of those policies have taken on the mantle to try to fix that. Yes, ma'am.

[00:40:38] **Robin Dickey:** Good morning, sir. Robin Dickey with the Aerospace Corporation. So my question is on the topic of international norms of behavior. How do you see norms shaping Space Force behaviors and what role might you see the Space Force having in helping to build those international norms for space?

[00:40:55] **Gen B. Chance Saltzman, CSO, USSF:** Great. And I think the answer in both questions is one-word leadership. We have to lead the effort. We've got a tremendous amount of capabilities. The activities that we're pursuing we will have at scale the ability to model responsible behaviors in ways that maybe some of the other nations, it, like-minded space-free nations can't. So we have an important responsibility to model the behavior. I think that's important. Second is, I don't think it's gonna change our behavior much at all.

We have the ability to live well within the responsible behaviors. We wrote the responsible behaviors around how we think business should be done. These are not handcuffs that prevent us from doing anything that we wanna do. There are other ways to achieve more responsible ways to achieve our objectives, testing, training, etc. And so that's, when the tenets of responsible behavior came out of the Secretary of Defense, nobody battered an eye on the Space Force because we can keep right up with that and execute them.

So now we've gotta model the behavior. The real benefit of the responsible behaviors in space, and this was one of the discussions that we had at the Coalition Conference of the Shreber War game. As the other nations were thinking through whether they were signing up to or what they were signing up to if they backed these responsible behaviors, is it allows, once you define what looks like, you can more rapidly determine what's irresponsible behavior.

And then you have ground to stand on to attribute and hold accountable the actors that are responding in more irresponsible ways. And that's a powerful motivator across a number of competing narratives, is maybe the best way to say that. And so the coalition members that I was talking to, this eight nations, they were, they all saw the value of that. And so I think it's a very positive step forward, for maintaining again, our goals, safe, secure, stable, sustainable space domain.

Hi, sir. I just want to evolve a little bit

[00:42:46] **Audience:** on the battle space answer, which I think is a great concept. What I didn't hear you say was the JADC2 word. So I was wondering if you could expand on your vision of the Space Force's role, or vision, or where you see JADC2 as a unique service provider?

[00:43:02] **Gen B. Chance Saltzman, CSO, USSF:** Yeah. It's again, it's about this idea that once we put a noun to it, we quit defining what it really means to discuss it. And so it's not maybe intentional that I don't say JADC2 or I don't say BMC3. It's just that's not as useful for me because I've gotta get to the next level of detail and really start talking about the key activities, the key technologies. And so everything that the Department of the Air Force is doing with its operational initiatives aligned with this, ABMS, the work on s- the space data transport layer, all directly contributes, and really underpins and enables this umbrella concept called JADC2.

I think that as a, is a conceptual umbrella, like I just said is the best way to make sure that as all of the various departments and services undertake their key

activities, they keep coming back to and saying, "Okay, are we still aligned with the overall vision? Is this gonna be interoperable? Is it gonna work together as we bring capabilities to bear in a synchronized way? Are there gonna be any regrets that we're pursuing a path that won't integrate back?" That's the value of an umbrella concept.

But then the people that have to implement gotta start talking about the next level of detail. And for us, it's about our space domain awareness, fusion, the support the support, decision support tools that we'll need as well as that space data transport that moves data to where it needs to be to enable, to join all domain command control. One more? Okay. How about there? And then I'll leave this way so that you guys can all grab me. Okay. [laughing]

Sir, thank you for your remarks. Derek Fleck, Aeryon LLC.

[00:44:38] **Derek Fleck:** You spoke to the importance of partnerships in the success of the Space Force. And you spoke to two specific partnerships your component command serving combatant commanders and foreign partners as well as your commercial services office. Do you see a role or an expanding role for commercial space beyond, in direct conflict, maybe in Ukraine, or direct support to the DOD to help with those partnerships in a soft power role or companies that aren't burdened by some of the classification issues?

[00:45:09] **Gen B. Chance Saltzman, CSO, USSF:** I mean, the short answer is absolutely. We know we can't do it successfully without good solid commercial partnerships. Again, this may sound like a theme here. But what specifically are we talking about? Is it transactional, commercial services provided? Is it a partnership? Are we develop collaboration and mutually work on a solution? There's a lot of different elements to what commercial support could look like. I was explaining this to my son and he says I'm not seeing the difference." And I said when I buy Honda Accord.

I don't have a partnership with Honda, right? They might like to think I do, and I'm gonna keep coming back, but this is pretty transactional. I, they, I like what they have, I bought it. I'm gonna use it as I see fit." that may not be the, that may not be the best model as we start talking about space domain awareness or commercial ISR. That may be more of a collaborative effort that requires us to think more specifically about what's inherently governmental or inherently military functions versus where we can leverage services from the commercial industry.

That's the work that has to be done to make sure that we get the support just right, but we're not gonna be able to do it without some level of support. Thank you all very much. I really appreciated the discussion. [applause]

[00:46:40] **Gen Kevin Chilton, USAF (ret.):** Hey, chief, can't thank you enough for kicking us off this morning. It really means a lot to everybody here, and we appreciate your time. You were mentioning my time when I was commander at STRATCOM. I at least had a thousand nautical mile buffer between me and Washington DC. You're right here in the middle of the fight, and we know you're exactly the right guy to lead it with your vision. And the things you talked about this morning are gonna be so important to be implemented through your tenure as the Chief of Space Operations. Thank you so much for your leadership. And again, thanks for joining us this morning.