

Aerospace Advantage – Ep. 204: The Rendezvous – Transcript

Heather "Lucky" Penney: [00:00:00] Welcome to the Aerospace Advantage Podcast, brought to you by PenFed. I'm your host, Heather "Lucky" Penney. Here on the Aerospace Advantage, we speak with leaders in the DOD, industry, and other subject matter experts to explore the intersection of strategy, operational concepts, technology, and policy when it comes to air and space power.

So, if you like learning about aerospace power, you're in the right place. To our regular listeners, welcome back. And if it's your first time here, thank you so much for joining us. As a reminder, if you like what you're hearing today, do us a favor and follow our show. Please give us a "like" and leave a comment so that we can keep charting the trajectories that matter the most to you.

And this week, it's time for The Rendezvous, our monthly installment where the Mitchell team digs into the stories that you've seen in the headlines. So, with that, I'd like to introduce the Mitchell Institute Dean, Lt Gen Dave Deptula.

Sir, great to have you here.

Lt Gen David Deptula, USAF (Ret.): Yeah, always great to be here, Heather. Thank you.

Heather "Lucky" Penney: And we've got Jeff "Rowlie" Rowlison, one of our Washington experts on the space side.

Jeff "Rowlie" Rowlison: Hey, Lucky, thanks for having [00:01:00] me.

Heather "Lucky" Penney: And we've got Todd "Sledge" Harmer with us.

Todd "Sledge" Harmer: Great to be back.

Heather "Lucky" Penney: Not to mention Anthony "Laser" Lazarski.

Anthony "Lazer" Lazarski: Great to be back.

Happy October, everybody.

Heather "Lucky" Penney: That's right. And we've got Jen "Boots" Reeves, one of our Senior Fellows for Space Power.

Jennifer "Boots" Reeves: Hey, everybody. So glad to be here.

Heather "Lucky" Penney: All right, folks. So, this month we had the Air and Space Force Association host its major annual conference here in D. C. And this is truly the place to be if you have anything to do with aerospace power. It involves our top service leaders, international air and space leaders, top industry folks, the press corps, and this year we had over 20,000 attendees.

It was record breaking! The Secretary of the Air Force, the Chief of Space Operations, and the Chief of the Air Force always give a major address that sets the stage for where things will go for the next year. And it's also where we've learned some major news that impacts the direction of air and space power at some pretty historic levels.

So, I want to go around the table and see what folks took away from the event. General [00:02:00] Deptula, let's start with you for an overview.

Lt Gen David Deptula, USAF (Ret.): Well, like you said, Heather, it was a record breaking conference in terms of attendance, so that's a good thing. What we saw was the Department of the Air Force reinforce their vectors on optimizing for Great Power Competition and a maturation of those ideas.

I personally thought that, General Alvin's presentation, was a very good effort to describe the rationale behind the organizational changes that they announced at our spring AFA event in Denver. He went through each major objective area, projecting power, generating readiness, developing people, and developing capabilities, and explained the major changes.

His main message was that we adopted the Air Force in the transition from the Cold War to where we are today. And we must likewise adopt to a future, of Great Power [00:03:00] Competition, is very different than what we've experienced over the last 20 years and need to provide contributions in the execution of joint force operations, as an integrated Air Force, not separate elements.

Now, to be candid, lot of people came up to me with a question mark over their craniums and there was some confusion about just what he meant by "one" Air Force. In a discussion that I had with the Director of the Air Force Staff afterwards, he gave me a good example of just what the Chief means.

And that example is it, relatively recently to field 2,500 airmen at an operating location in the Middle East. Those airmen were sourced from over 90 different

bases using the same methodology the Air Force used when General Norty Schwartz was the Chief. So, they took time to get to know one another and how [00:04:00] to effectively operate.

That, that's not a surprise when you run into folks you've never met before. Now in the future, that kind of deployed unit needs to be sourced from one base and with people who already know how to work together and effectively operate immediately. So, I think that was a pretty good example among some others.

Now, in addition, I have to tell you that Secretary Kendall, really needs to be commended for telling it like it is about the Space Force. That it needs two to three times the funding it now receives to meet the demands of the National Defense Strategy, on the Space Force. He made that statement a few weeks ago, and at the conference, he reiterated that the Space Force is in dire need of additional funding.

He also made the point about the U. S. Air Force as well, and that funding is what's standing in the way of [00:05:00] necessary capability and capacity. In addition to that, he gave a status report on each of the seven operational imperatives and reiterated the importance and the significance of air superiority as a core mission of the Air Force.

Heather "Lucky" Penney: That's good.

Lt Gen David Deptula, USAF (Ret.): Yeah, well, mainly because, of the pause that the Air Force put on the aircraft element of NGAD. There are many people wondering about Secretary and the Chief's commitment to recapitalizing the F 22, because we have too few of those. And while it's still the most advanced operational combat aircraft in the world, technology is moving on and the Air Force has got to capitalize on that for next generation advanced operational combat aircraft, that's part of the NGAD design.

One other thing I'll hit, I mean, cause there was a lot that was covered, is there was a mention of disaggregating capabilities from being located on one aircraft to many others. [00:06:00] And while an interesting idea, that's all it is right now, an interesting idea. While that may lower the cost of building one of the distributed aircraft, that concepts ultimately going to require many more aircraft to be built for the entire system of systems to work, which is going to drive overall costs up.

It's going to require a near perfect means of assured communications that we've yet to develop, and it's going to require a degree of artificial intelligence that

we've yet to achieve. And then a demonstration of the feasibility of the entire concept. I'd suggest that all these elements are perhaps 10 to 15 years in the future and we need to get on with advanced combat fighters, aircraft, sooner rather than later, considering the threats that are facing us now.

Remember, the Secretary emphasized that we're out of time. Acceptance of great ideas and concepts that may be viable at some point in the [00:07:00] future is great, but they need to be treated, uh, but they can't be treated as if they're operational in the near term because that'd be a recipe for disaster.

Heather "Lucky" Penney: So, the disaggregation piece, I mean, we did some early studies on this with our mosaic paper, and we found the exact same thing.

It could increase resilience. It was more attrition tolerant, but that meant you had to buy a lot of them. We did not do a cost analysis of what this would be, but we also understood that there was going to be some key vulnerabilities, comms, software processing was a huge piece of that. And we also felt that it was really important to have organic kill chain capability. So, aircraft that were capable of executing the entire kill chain, within the battle space.

So...

Lt Gen David Deptula, USAF (Ret.): Spot on, it's a great idea and so it shouldn't be dismissed, but it's also something that can't be accomplished in the near term when you get pragmatic about all that's [00:08:00] required to make that kind of concept work.

Heather "Lucky" Penney: And the other thing that was important about those organic kill chains, and so you imagine like, for example, F 22 or F 35 would be one of those, is that's where the humans would be. That's where they would be located. And that's crucial because human cognition on the forward edge of the battle space will continue to be an asymmetric advantage for our forces.

So, speaking of that, um, sir, what were your big takeaways regarding collaborative combat aircraft? I mean, it was really cool to see those models, and in General Atomics' case, an actual aircraft in the exhibit hall. And we've seen them work. Tell us more what your thoughts were.

Lt Gen David Deptula, USAF (Ret.): Well, I don't need to tell you, but perhaps the audience might need a little bit of insight in the fact that Mitchell Institute is a big fan of the CCA concept. And we've hosted three workshops and war games involving the Air Force, industry, and academia over the last 18

months. And you've participated in those, virtually everyone here at [00:09:00] Mitchell has, and the insights and the conclusions that came from those events, have helped the Air Force and industry mature their ideas and ways ahead.

Now, at the same time, the Air Force still has some work to do in demonstrating the actual concepts of operation for collaborative combat aircraft across the spectrum of warfighting environments that they're going to be operating. There's still much work, to determine, for example, look, relatively low cost is one of the CCAs attractive features, reinforcing the notion of achieving affordable mass.

But while that might work out well in less contested airspace, if CCAs need to be able to penetrate in order to be reusable, in order to deliver the quantities of munitions required in a major regional conflict, not simply deliver standoff weapons, that's going to drive up cost. This then begs the question of the optimal [00:10:00] mix between stand in and stand off.

We can't afford an all stand off force because the aim point demands for the next major regional contingency are going to be too high. So, in that context, stand by because one of the major war games efforts we're going to work on this coming year is the balance between stand-in and stand-off.

But back to CCAs. To what degree is artificial intelligence required to make collaborative combat aircraft viable? How long is that going to take? What I'm hearing from our industry and academia partners is probably not until the mid 2030s to achieve robust, reliable artificial intelligence to operationalize some of the CCA concepts that are out there.

So, let's proceed with the CCA initiatives that are being developed, but the Air Force needs to be approaching this construct with eyes wide open.

Heather "Lucky" Penney: Well, [00:11:00] and they're also not a replacement for, humans in cockpits and being in the Fort Edge of the battle area. During our wargames, one of the things we found was that CCAs when paired with humans in the battle space, really changed the entire risk profile, and that was really crucial. It allowed commanders to be able to do things they weren't willing to do if they only had crewed platforms, but also they weren't able to achieve the effects they needed to achieve if they only had CCAs.

So, we found that, CCAs were important to detonate adversary tactics, disrupt them, pull them off access, deplete their weapons magazine, degrade their situational awareness, and desynchronize their operations so they couldn't

respond to the crude platforms. And I think that's really going to be the sweet spot when we see how humans and CCA team, not just in a loyal wingman concept or in a missile truck concept, but when we think about the broader operational concepts of what they can probably do.

Lt Gen David Deptula, USAF (Ret.): Yeah. And there's some problems there that are challenges. Let's put it that way. I mean, when you have your inhabited aircraft operating [00:12:00] at, Mach 1.4-1.5 sometimes even greater than that. And you've got your CCAs operating subsonic. Uh, okay, how are you going to work that coordination? And we've talked already about the absolute requirement for effective and assured communications are actually more than communications, connectivity, to be able to exchange mission critical information.

Heather "Lucky" Penney: Yeah, I mean, and as you said, here at Mitchell, we firmly believe in CCAs and the need to be able to bring these capabilities to the forefront. But we also need to make sure that we're putting them in the operational context where they will be successful and they'll make the overall operation successful.

So, sir, I'd like to peel the layers back a little bit more on NGAD. I mean, it's been a really hot topic, given that the contract award was supposed to be announced this year, and now we're seeing delays. And now we have Secretary Kendall saying they're going to study it some more. I'm not getting big, warm fuzzies out of this.

I'm glad that they've said that they believe in air superiority, but [00:13:00] what are your thoughts on what's going on with NGAD?

Lt Gen David Deptula, USAF (Ret.): Well, first, I mean, the Secretary went out of his way, in his opening remarks, to reiterate the Air Force's commitment to air superiority, as you said. But how we get there in the future is still not clear as the NGAD decision plays out.

And the F 35 build rate is right now stuck at too low of a number. Now, the Secretary did make the point that if there's ever a place to stop and make sure that the current plan for the airborne element of NGAD is the most prudent one, then the time is now. And that review has to be completed relatively soon given the exigencies of the budget, as well as upcoming acquisition decisions.

The bottom line is, the decision has to be one that advances, not reduces, the U.S. military's ability to hold our enemies at risk. [00:14:00] And therefore,

increase conventional deterrence to shape the security environment, not reduce it.

We have got to rebuild our Air Force, guided by proven doctrine and associated warfighting capabilities, necessary to execute our National Defense Strategy. That means building the capabilities to conduct offensive counter-air campaigns in a big way. As well as conventional strategic attack. And not capitulate to adversary strategies, but build the capacity to deter and, if necessary, defeat them.

So, our perspective here at the Mitchell Institute is keeping the airborne element of NGAD on track, is absolutely necessary to do that. We wouldn't want to take away security options for a future president just because of arbitrary budget considerations today. [00:15:00] That would be a huge mistake.

Heather "Lucky" Penney: I totally agree.

But Secretary Kendall also said that his cost targets for NGAD are less than the current flyaway cost for F 35. I'm just really struggling with achieving the necessary aerodynamic and survivability performance at less than what the F 35 flyaway cost is. So, given those realities, I think the target's a little optimistic, and again, really makes me worried.

Lt Gen David Deptula, USAF (Ret.): Well, as I mentioned earlier, and Secretary Kendall later clarified, both in public and in some sidebar discussions, um, that he was speaking to an option, okay? Of off boarding capabilities. He used the example of, radar sensors, weapons, and the like to other aircraft to get the cost of the penetrating low observable element of NGAD down.

That capability, however, from a system of systems approach is yet to be proven [00:16:00] as an operational concept. And in reality, I would suggest, might certainly drive overall system cost up. And this is exactly where taking a cost per effect assessment needs to come into play in informing these kinds of postulated, but undemonstrated options.

Heather "Lucky" Penney: Well, this is the disaggregation problem, right? I mean, you actually increase your vulnerability because you increase your attack space when you disaggregate. And in order to be able to counter that, you have to have incredible numbers to be able to be attrition tolerant and still be effective.

Lt Gen David Deptula, USAF (Ret.): Yes, ma'am.

Heather "Lucky" Penney: All right. So Lazer and Sledge, what were your takeaways on the air power side?

Anthony "Lazer" Lazarski: But I saw and listened to were Air Force addressing, Air and Space Force, addressing monetization, artificial intelligence, industrial base, supply chain, all NGAD, you know China. All these things that we have been talking about, and they're important and need to highlight and to discuss them. [00:17:00] What's important is that from members of staff of Congress, industry, Airmen, Guardians, our leaders, is to figure out how to work together to resolve and mitigate these issues.

I was in a meeting with Congressman Kevin Hern from Oklahoma last week and we were discussing China and he said he was tired of talking about China and asking for more studies on China. He said that we need to stop talking and start taking action.

Todd "Sledge" Harmer: I agree with the conference recap in terms of the issues and topics.

I do want to go back and just kind of re attack on one of the things General Deptula said earlier. I applaud the Secretary for his thoughts, or at least the thought process on air superiority. You know, to quote a former Chief of Staff, what got us here won't get us there. So, we've got to be creative.

We've got to think through what it's going to take to win in the future fight and maintain air superiority. I mean, without that, everything else fails. I still need to think and work my way intellectually through the NGAD disaggregation and cost [00:18:00] discussion, but just a couple of thoughts here.

The Air Force cannot constrain ourselves. I mean, we've talked about this culturally in past podcasts. You know, when we're given a problem, we identify the mission. Then we look at our resources, and then we say this is our strategy. We need to make sure that we're not constraining ourselves and provide the strategy first and then advocate and articulate for the resources necessary. I think in order to influence the FY 26 budget request the Secretary's going to need to make a decision on this. Probably before the 1st of December or around the 1st of December, and I hope whatever that decision is, that again, we don't self-constrain and that we provide the national command authority the options to achieve our national objectives and complicate the adversary's problem.

We can't give them sanctuary. We can't give them safety. We've got to be able to establish air superiority. And then the last thing I'll say on the conference is,

you know, this is, the fourth year of an administration and the fourth year of the Secretary's tenure.

So, you really didn't hear a lot of [00:19:00] new ideas or new thoughts. Except some of them that have been outlined here previously. Now, it's time for the Air Force to execute. I mean we've talked about it for four years and it's time to roll up the sleeves and get it done.

Heather "Lucky" Penney: So, Boots and Rowlie, what did you find was significant regarding space at the conference?

Jennifer "Boots" Reeves: Well, one of the things that I wanted to just bring up is a little, it seems like a small thing, and it's happening for the Space Force, but this could have enormous implications for the broader force. And I got to spend some time with the S1, Miss Kelly of the U.S. Space Force, and talk about this new construct, called the Space Force Personnel Management Act, and it came along in the NDAA for FY 24.

And what's going on with that, that is just so intriguing and interesting is that the Space Force is not going to have a reserve force, right? There will be no reservists [00:20:00] associated with the Space Force. What there will be, however, that this act has, that this law now has actually put into force, is that there will be a part time Guardian force, which is so different than anything that we've ever had, right?

The reserves are built off of sort of an Army infantry construct, if you will, where I mean, even the words that we use, you drill, you have drill weekends, and then you come in for a large exercise for two weeks year. But that construct is not going to exist with the Space Force. And it's very interesting.

I think what they're most interested in getting after is having a holistic Guardian force, but one that allows for people to experience and, well, normal experiences in life, right? Aging parents, expanding your family, maybe going off and doing [00:21:00] some sort of a sabbatical somewhere, but then having the opportunity to come back and on-ramp back into the active-duty force, which is not very usual in the rest of the department.

But it was a real thrill to see the first reservists who came back into the Space Force as full-time Guardians. And so, yeah, I wanted to share that with you.

It was a really cool thing to see. And I think everyone's going to be waiting to see how this all turns out in the future. It's going to be intriguing.

Heather "Lucky" Penney: Yeah, exactly. So, it's great that they've got the ability to flow out, flow back in, and have a part-time status. And I think also it'll be really important to see their promotability over time.

Okay, Rowlie, how about you?

Jeff "Rowlie" Rowlison: All right. Like Lazer and Sledge said, I think the most important thing that will be to see how our DAF and certainly the Space Force decides how to execute on the promise and optimism of this, this awesome conference. It really is a homecoming for all of us. But like Sledge said, there's not a [00:22:00] whole lot new coming out.

The SECAF did highlight that the Space Force absolutely needs additional resources. And we've talked about that many times on this show. That said, he did highlight the quick start effort on the resilient GPS. And those have recently been awarded to companies like Astronix, Axiant, L3Harris, Sincere Space.

But that said, I'd love to see the intent of the CSO's state of the Space Force comments to end up being truly reflected in their 26 budget request. We've got to put this into action now. We're running out of time to see visions turn into resources. And I think the CSO's remarks reflected really the momentum that he's generated in the Space Force.

He's pivoting from initial efforts and really the validation of the force and an aggregate to operationalizing a combat-ready Space Force. And so, things like design, development, [00:23:00] generation, employment, all these themes that the Chief talked about, got the crowd really excited about the future and was coming with the new, uh, the stand up of Space Futures Command. And the ability to rebase line concepts of the future which will then even further define the resourcing problem.

And I think his comments really, talked about the maturation of the force and Boots already highlighted the Space Force Personnel Management Act efforts and the Chief highlighted his SPAFORGEN efforts. But really, one of the things that most excited me about his comments, and we've talked about this previously was the burgeoning TAC SRT effort.

And the Chief highlighted the Space Force pilot program that is supporting COCOM efforts right now, and Congress has approved and appropriated 2 years of money towards the commercial TAC SRT effort. [00:24:00] And this effort is really enabling a cool demonstration of Space Force driven products to COCOM enabled by industry. And I'm hoping that the 26 budget reflects a real

commitment to this effort because, you know, his comments were exciting. A lot of stuff going on in the Space Force. Now we need those ideas and those concepts to turn into resources.

Heather "Lucky" Penney: So, Lazer, Sledge, and Jeff, you know, we heard from Secretary Kendall, China, China, China. But a further bit up the Potomac, and we've talked about this before, Congress just passed a Continuing Resolution, and that has major cost implications for defense. So, this is better than a government shutdown, but it's far from good.

It's no good for anybody. Can you walk us through how this came to being and what you expect to play out?

Anthony "Lazer" Lazarski: Yeah, we've been through this before. So, the Constitution grants Congress sole authority to enact legislation. Okay, that's a great thing. Part of it is supposed to pass an annual budget for the government.

All right. I mean, that's their job. [00:25:00] So why the history lesson? Because Congress has failed to do that on time every year since fiscal year 1977 and having to enact one or more continuing resolutions every year since. And when Sledge and I were in the Senate together as military legislative assistance, we were all concerned.

Oh, we're not going to get this done, especially the defense budget, on time, you know, by 1 October. And now we don't even really look at 1 October. We're worried about the end of the calendar year. So, Congress is now concerned about passing the 12 appropriations bill by the end of the calendar year, no longer the fiscal year.

Which means DoD has now figured okay, they're not going to do it. So we already figure out how we're going to spend our money, how we're going to delay things until we get the budget. Hopefully see the money in the next in the next calendar year. Not this year, hoping that they pass it by December.

But the current Continuing Resolutions [00:26:00] follows the standard format of all the others. It prevents DoD from using funds for new or accelerated production of certain products, and it stops us from getting new starts and activities. It also stops us from doing certain multi-year procurements, and it limits spending, overall spending, because we're frozen for this last year, but it also you can't fully spend.

So, typically, we spend between 16 to 21 percent of the prior year fiscal year spending. So, the implications, what are they? All services and agencies are prevented from issuing contracts for new projects or programs that delay award slip schedules until there could be a delayed initial or full operational capability of weapon systems.

It increases costs, has negative impacts on training, maintenance, and sustainment, which then leads to decreased readiness. It also impacts recruiting and retention. And then finally, it's a waste of money, especially as a lot of times we rush to try to execute all this [00:27:00] funding because it just got dumped on us at the last minute.

Heather "Lucky" Penney: Yeah. And sometimes, the companies can't even use the money because it hasn't been a smooth flow out, and they can't schedule the work in time to be able to provide the deliverables and execution.

Anthony "Lazer" Lazarski: Exactly.

Todd "Sledge" Harmer: Yeah, I think Lazer nailed it. Just want to add a couple of things. Usually, at the start of the fiscal year, you can get right into your training and your exercises.

When you're operating under a CR, I think you've seen a deliberate shift on the part of DoD in general and the Air Force in particular, but there aren't any large exercises or training events in the first quarter of the fiscal year. And you can't restore readiness if you're only operating 75 percent of the year.

So, I think that's an important thing. I also want to say that I think the election is really going to determine what happens in the lame duck session and how things play out in terms of funding for the rest of the fiscal year. And there's so many variables, it's impossible to predict, but the Speaker said he doesn't want to have a [00:28:00] omnibus that he wants to pass each of the funding bills individually.

Whether or not that happens remains to be seen. You could see some type of a partial, you know, an omnibus or appropriations bill for defense and then CRs or omnibus for others. Who knows? It's too hard to predict. But the one thing I think we need to talk about is the fact that the NDAA, the National Defense Authorization Act is still in play.

That needs to pass. There's some, must have authorities that are included in that. So I think a week before, so somewhere between the 7th and the 13th of

December, you'll see the NDAA pass, and that will serve as a legislative vehicle for some of the other pass bills like the Farm Bill.

Jeff "Rowlie" Rowlison: Giddy up. And one of the things I think everyone needs to consider is the impact that the delay of the CR will have on the next budget cycle, and then 26 is compressed as well. So, I think this ripple effect is really gonna impact one readiness, right? If you look at how Guardians train [00:29:00] and you know, all of the new plans that Salty talked about in the AFA speech. I think all of that has implications on how we roll out into the next budget cycle, too. So, you know, like Sledge and Lazer, they've talked about this is nobody knows how this is going to play out. But the implications couldn't be more profound.

Heather "Lucky" Penney: So, past keeping the money flowing, or sort of flowing, are you expecting defense to be low profile in Congress until we get through the election season?

I mean, to be honest, I haven't seen anything from either party discussing global national security issues in meaningful ways.

Anthony "Lazer" Lazarski: And like, I like all of us, we like to beat up Congress. There has been and continue to be members of Congress, especially those on the Defense Appropriations Committees, Defense Authorization Committees, Intel, and Foreign Relations Committees that do continue to work global national security issues.

They look at China, Russia, Iran, North Korea, overall DoD modernization, nuclear triad, [00:30:00] cyber, artificial intelligence, all those issues. I mean, they're watching those, however, those issues are not at the top of everyday Americans priority list. I mean, if you look out there and you start, you listen, what's going on, we're in election season.

The polls are showing us and if you listen to Americans, they're concerned about the economy and jobs, inflation, cost of living, the debt, border, immigration, abortion, foreign policy, and national security are sitting at the end. So again, it's being driven by the narrative of what's out there. And even though Congress is, there are members of Congress, they're being asked questions of interest to the American people.

And then if you look at the escalating debt coupled with the decrease in defense hawks that we've talked about before in Congress, that's why we're having a tough time getting the focus and funding, our defense properly.

Lt Gen David Deptula, USAF (Ret.): Let me just jump in here. I, there's got to be a realization by the next [00:31:00] administration, regardless of whom that might be, that the Air Force is in desperate need of additional funding to recapitalize its current geriatric air forces due to neglect over the past 30 years. And the consequences for the entire United States military without that rebuilding.

As I've said before, the Department of the Air Force is the indispensable force because there is no joint force operation that can be conducted without some element of the Department of the Air Force being involved. And you can't say that about any other military department. So, all are dependent upon what the Air Force and the Space Force provides.

And we're quickly running out of capacity. I just can't say it any other way. And capability, that are critically important. I mean, in all of us can go on, on each [00:32:00] particular area, but this is absolutely important to get on the attention plate of the next national security leadership.

Heather "Lucky" Penney: And it's, it's also capability that we need to buy today, procurement dollars for today because as much as I completely support the operational imperatives, we're not going to see those in meaningful, relevant numbers fielded to warfighters until the late 2030s, and we cannot wait that long.

Anthony "Lazer" Lazarski: And Lucky, if I could just jump in, so, and you're right. And we've talked about this before, you know, we're stretched so thin, but we continue to succeed at our job and we do the best because we have the best Airmen and Guardians in the world and we're not going to fail until that point when we do fail and it'll be catastrophic.

And that's what we're trying to prevent here through this discussion and trying to talk to Congress. But again, my fear is, and we talked, Sledge has said this too, is that it's going to take a catastrophic failure to wake us up.

Heather "Lucky" Penney: Okay. Sledge, [00:33:00] Rowlie, what's your thoughts?

Todd "Sledge" Harmer: No, Lucky, I agree with you there. The real issue is, what you want your Department of Defense to do, and are you willing to pay for it? The nuclear, triad is again, as Boots has said, is foundational to our national security. And let's not forget that China just launched an ICBM in the vicinity of Hawaii.

So, our adversaries are out there modernizing. We absolutely have to keep pace. We actually have to stay ahead of them in order to provide that foundational deterrent force. And then if you want to be able to project power or defend the homeland, you've got to have the conventional force to do it.

While I agree with most of what's been said in the previous discussion here, I, I'm going to offer just a slightly contrarian view. It's true defense has not been explicitly, discussed or talked about in the forefront, but I think it's implied in a lot of the foreign policy discussions and the debate that's happening around here.

Also, the economy will rightfully dominate the dialogue or the debate in the remaining part of the election season here. [00:34:00] And because of the economy, you know, we have to look at defense is the largest discretionary spending item in the federal budget. It gets attention. Congress will make sure that the right attention and pressure are put on defense priorities.

It's really a question of how Congress is going to allocate these resources, particularly for the Department of the Air Force. That's going to be the key part of not just the Presidential debate, but how this plays out once a new administration comes in. But my contrarian view and what I want to point out here is I think we're missing the point when we're saying defense is not such a priority problem.

It's really the national debt. That's something that they need to talk about. History is replete with examples of great powers failing because they exhausted their treasury. And if we don't get our economic house in order, if we don't address the debt and the deficit. All the discussions about force structure and national security go out the window.

That's the debate that needs to be happening.

Heather "Lucky" Penney: Okay, Boots, I saw that you wanted to say something. Go. [00:35:00]

Jennifer "Boots" Reeves: So what I was going to say, I agree with you, Lucky, and that is, you know, if you look back at the time of counterinsurgency operations, the Army received a huge infusion of supplemental funding that was above and beyond what was happening in normal year to year funding, and something like that is what needs to happen now for the Navy and the Air Force, primarily the Air Force, to have the funding that it needs to actually recap our nuclear triad.

Heather "Lucky" Penney: So General Deptula, China recently launched an ICBM and it's the first Publix test that we've seen them do in years, maybe even decades, and it was a long one. So, what are the implications for this test or demonstration?

Lt Gen David Deptula, USAF (Ret.): Yeah, well first it's amazing that this launch got so little coverage in the US media. I mean, holy cow! That's a whole other discussion area [00:36:00] But the bottom line is China's serious about hard power and they're playing with an intent to win. Their entire mass force modernization speaks to this, and so too does their aggressive attitude in the Pacific and beyond.

The rhetoric is matched by their actions. Nuclear weapons are the bedrock of any superpower, and China's not only demonstrating they have a nuclear capability and that it works, but they're breaking out of their minimum deterrent force to one that matches or even exceeds that, of the United States and Russia.

This puts us into a world that we have never experienced before. Think about it. Russia has at least participated in nuclear arms control agreements with the United States. China, on the other hand, never has, and now we have a world with three, not two, matching nuclear arsenals. That's a huge game [00:37:00] changer, and we have yet to hear very much on how we're going to deal in this new world.

So, it's time we take China's actions with respect to building their nuclear force really seriously.

Heather "Lucky" Penney: Yeah, they can reach out and touch us, and they are definitely, as you said, doing a breakout in terms of capability, capacity, as well as numbers, right? When I say capacity, I'm talking about the tonnage that they can deliver.

So, speaking of conventional capabilities, Lockheed just delivered its 1,000th F 35 this month. That's a major milestone. They're rolling off the line, and they're finally being accepted at frontline units, but it'll take a little while to distribute. The F 35s have been backlogged at Fort Worth. But we know that things are moving.

So, what are your thoughts on why this capacity is so important right now?

Anthony "Lazer" Lazarski: Lucky, hopefully, I'm echoing your thoughts here, but for every asset, be it a fighter, bomber, or heavy, that we do not have

on the ramp, we increase the op tempo of the remaining assets. For every F [00:38:00] 35 that's not in the hands of the warfighter, assets like F 16s, F 22s, F 15Es that need to execute those missions that these F 35s can't, and we increase the wear and tear on those assets, and the airmen who keep them flying, and then we decrease the service life of those assets.

So, we basically just sent all three platforms to the Middle East because if we'd had extra F-35s, we could have put more F-35s out there. And of course, if we had more F 22s. We could have put them out there also. So, we're we're increasing wear and tear on our assets. The global mission of the Air Force is required to execute has not decreased, but the size and age of the assets has. And the ability to execute those mission putting wear and tear on those assets.

It's something we've talked about over and over again at the Mitchell Institute. So, without new iron on the ramp, the Air Force will enter, or some may argue, continue an unsustainable readiness death spiral.

Heather "Lucky" Penney: General Deptula? [00:39:00]

Lt Gen David Deptula, USAF (Ret.): Well, we can't ignore the capacity crisis in today's Air Force. We're running a small number of combat aircraft and crews simply too hard.

It's going to break the force and the cracks are now visible. We've got commanders in the field articulating their concerns that they just need more aircraft, any kind, simply so that their pilots can fly. Industry can't sprint a capacity build. So, this is about a marathon to build up enough modern capability as well as capacity.

Now, the F-35 number is a great one to hear cause part of that is equipping our allies with sufficient fifth-generation aircraft. That's the modern baseline capability required to fly and fight. Stealth. Fortunately, our allies are buying plenty of F 35s. At this conference, General Hecker made the point that in a couple of years, NATO allies in Europe will have about [00:40:00] 700 F 35s, and the United States Air Forces in Europe will only have about 60 of that number.

So, allies matter today. The U. S. simply can't win without them any longer. Now, the risk is clear. The Russia-Ukraine war shows what happens without the ability to achieve air dominance. Uh, and that's a descent into trench warfare. That's not how we want to fight. That's how we would lose. Let me offer that the recent Israeli Air Force successes demonstrate the importance of having

both a strong Air Force as well as an effective missile defense and the options that both provide for a nation's security.

Unfortunately, the United States Air Force has been allowed to atrophy to the extent that we're the oldest and smallest in our history in our missile defenses and are simply not adequate to meet the demands of our own National Defense Strategy. So, reversing this situation's got to be a priority of the next [00:41:00] administration regardless of who gets elected.

Heather "Lucky" Penney: It's not just simply, I would say, missile defense for the homeland, but also an integrated missile defense and base defense for our bases that are further forward. Because that's really the best way to be able to execute effective combat operations. And as we've said here at Mitchell, go after the archers, not the arrows.

So, Boots and Rowlie, let's get back to you because we've talked about some of the news that was made at ASC, and you saw General Saltzman evolve his talking points, and it's less about justifying the Space Force now and more about maturing the service.

Could you explain that to our audience? I mean, where is Salty taking the service?

Lt Gen David Deptula, USAF (Ret.): Perfect. Yeah. And that's exactly what's happened, happening right now. So, we've had the first five years really, where the senior leaders of the Space Force is actually sort of, it feels like they've been justifying the existence of the Space Force.

And it's been a very compelling argument, absolutely. But now [00:42:00] this particular speech that General Saltzman brought to bear had a very different feel to it. It was a very much like, all right, everybody, we're going to roll up our sleeves, and we're actually getting to work to do the Space Force, not just talk about why we need the Space Force, and it was really cool.

And he broke it down into sort of 4 elements, right? Force design, force development, force generation, and force employment and he talked about each of those things and how he's getting after each of those things. And he totally is right. There's a new futures command. That's going to be kicking up here soon to look at how the Space Force needs to be engaging long into the future.

The new officer training course just kicked off in September. It's a 1 year course that all officers will be going through very similar to like a Marine Corps thing,

right? Where they all go to I think it's called officer basic course. But this is the officer training course where they spend time going deep in space operations.

Intel [00:43:00] and communications. I mean, which all three of those things are so important to doing space ops. So, really, really cool. And then this whole concept, their Space Force generation models, SPAFORGEN is how they, how they abbreviate it. And it's really about that there has to be a regular cycle of "prep" for operations and then "operations." Because while you're actually doing operations, there are some things that you don't do in the day-to-day course of things that those skills may atrophy, right? So, actually training for those wartime functions and other sort of one-off scenarios that we haven't quite seen yet.

And all of that's going to happen during the prep cycle and then people will be going and doing their actual missions on the mission cycle, right? And the operation cycle. So, this is this is a new construct. We talked about the Space Force Personnel Management [00:44:00] Act.

And I mentioned that earlier, and then one of the last things that he talked about that I thought was super interesting is this thing called TAC SRT and it's leveraging commercial imagery and analysis. And getting that into the warfighter's hands in a very short amount of time and that, he's taking this is a major success that they were able to support some actions and operations in AFRICOM with our ability to leverage what's going on in the commercial world and do it very, very quickly.

I mean, it's all a good news story that General Saltzman is telling, with probably the one exception, and that is, boy, oh, boy, do they need more resources to do what they've been told they have to do. They're doing things beautifully, and we're going to the next phase, and it's awesome, but boy, they sure could use some more resources.

Heather "Lucky" Penney: Okay, so speaking of resources, Boots, you had mentioned that earlier. We've seen a lot of technology developments make news. So, can you give us a quick tour? We know the Space Force is looking into GEO orbits for [00:45:00] PNT, laser comms. What else is on the horizon?

Jennifer "Boots" Reeves: Well, there's a ton that's on the horizon. That's what's so fun about being in the space world these days is because every time you turn around, there's something new and interesting in coming from all corners of the space enterprise. Coming from our commercial friends coming from, you know, various entities inside the Space Force.

It's been great. So, AFRL has, contracted and built a satellite. Uh, actually L3 Harris has done it for'em. And that is, testing out navigation, right? Sort of a GPS, either augmentation or replacement. We're not sure yet up in GEO, right? And quite interestingly, that's where China and their constellation called Baidu.

That's they have the lion's share of that experience. And it's a challenging thing to do. People don't understand that the orbital mechanics make a big difference in these different orbits and how you would actually sort of do the calculations and the math and the physics of all of this [00:46:00] to get you a navigation solution.

So that's going to be very interesting. And with durable arrays to create focused beams. I know I can get; I can start getting probably too technical here, but it solves the problem that we have with Nav Star, right? With GPS and that is a power problem. And so, this may help overcome jamming.

It's kind of cool, but they've got a hundred experiments on the list to actually do once the satellite reaches orbit, so they can try and figure some things out. So, that's super interesting. SDA is looking to send up about 80 satellites into a proliferated LEO constellation in tranche 3 to try and see if something in low earth orbit could be viable for navigation.

So, that's super cool. With respect to laser comms, there's this French company that just came out and said, hey, we've done it. We figured it out, and we've got this off-the-shelf equipment. So, this is, I think that is actually going to be a real fire for people [00:47:00] to keep moving down the laser comms path, because it is such, a such an, has so much promise in the technology where we get much, much higher data rates going through. And we get it to be off the very crowded electromagnetic spectrum, where there's a lot of regulation and a lot of traffic. So my gosh, there's a ton of stuff going on out there, Lucky.

Super exciting times.

Jeff "Rowlie" Rowlison: Hey, I highlighted the resilient GPS quick start effort, already earlier in the conversation and Boots highlighted some of the other great efforts. Especially some of the innovative Space Force driven TAC SRT effort that I described. I can't emphasize how important it is that the future budgets articulate the strategy for resourcing these efforts that can and are paying dividends to the COCOMs.

Heather "Lucky" Penney: Okay, so let's talk about an area where we need some technological development.

So, here at Mitchell, we're huge advocates for terrestrial environmental weather [00:48:00] monitoring from space. So, yeah, this is like, this is weather, it's like the weather channel, right? People don't really realize how important weather is to mission planning, flight profiles, the choices that we make for our weapons, seeker effectiveness, and more, right?

So, being able to know the weather in the target area is crucial to everything that warfighters do in the battle space. And the Air Force is still relying on aging satellites known as DMSP, Defense Meteorological Satellite Program. And these satellites are well beyond their design lives. So, we've been trying to move towards a new solution for years, and the program manager recently made comments that this needs to be a no-fail set of capabilities, and the need is urgent.

Uh, and this demands an action to field this new technology. Boots, what can you tell us about this?

Jennifer "Boots" Reeves: Well, I think it is, okay, so number one, you have actually said a number of very correct things that are parts, that are [00:49:00] defining for the situation, right? The DMSP was designed and as a system in the 60s.

It's been up there for a very long time. Not these individual satellites, but the individual satellites. There are a couple of them left. They're very old, and they're, again, big, juicy targets the way that term has been used in the past. We need the Space Force to get off the dime and stop studying the problem and actually move forward.

Heather "Lucky" Penney: So, thanks everyone for your time today.

General Deptula, Rowlie, Boots, Lazer, Sledge it's been great catching up. We'll see you next time.

Lt Gen David Deptula, USAF (Ret.): See you later.

Todd "Sledge" Harmer: Oh, it's great to be here. Thanks.

Jeff "Rowlie" Rowlison: Again. Thanks much. Lucky. See you next time.

Jennifer "Boots" Reeves: This was super fun Thanks so much for having me. Can't wait for the next.

Anthony "Lazer" Lazarski: Appreciate it. Lucky great job as always

Heather "Lucky" Penney: With that, I'd like to extend a big thank you to our guests for joining in today's discussion.

I'd also like to extend a big thank you to you, our listeners, for your continued support and for tuning into today's show. If you like what you heard today, don't forget to hit that like button and follow or [00:50:00] subscribe to the Aerospace Advantage. You can also leave a comment to let us know what you think about our show or areas you would like us to explore further.

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