

Aerospace Advantage – Ep. 213 The Rendezvous – Transcript (AI-Assisted)

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.

And this week, it's time again for the Rendezvous. And we're here to continue our discussion about the impact of the 2024 elections. Plus, we'll look at key airpower and spacepower developments. And we're also going to talk about China. And so with that, I'd like to introduce Mitchell Institute Dean, Lieutenant General Dave Deptula.

Sir, it's great to have you back.

Lt. Gen. David Deptula, USAF (Ret.): Yeah, great to be here. I hope everyone had a great Thanksgiving.

Heather "Lucky" Penney: Same. And we've also got Anthony "Lazer" Lazarski.

Anthony "Lazer" Lazarski: Well, so great to be back and it was a great Thanksgiving. Thanks.

Heather "Lucky" Penney: How many folks did you have at your house?

Anthony "Lazer" Lazarski: It was quiet. We only had four.

Heather "Lucky" Penney: We were up to 11. And we've got, Jen "Boots" Reeves, one of our senior fellows for space power.

Jennifer "Boots" Reeves: 14 for us.

Heather "Lucky" Penney: All right. You are [00:01:00] winning so far though.

General Deptula. How many folks did you have at your house?

Lt. Gen. David Deptula, USAF (Ret.): Uh, five.

Heather "Lucky" Penney: Okay. All right. So Jen is still, high. JDAM, our China expert. How many did you have?

J. Michael "JDAM" Dahm: We had 12, but three were under five.

So they had very small plates.

Heather "Lucky" Penney: I don't know, three under five. It's like double, right?

J. Michael "JDAM" Dahm: Well, there you go.

Heather "Lucky" Penney: Twice the work.

J. Michael "JDAM" Dahm: Twice the work. Maybe I've got Jen beat.

Heather "Lucky" Penney: All right, Lazer. So, uh, let's get started, with you, President Elect Trump, he's been making headlines on almost a daily basis with his cabinet picks and some initial policy announcements.

What's been the reaction on the Hill and other centers of gravity around town?

Anthony "Lazer" Lazarski: Yeah, nice easy question to start off with.

Heather "Lucky" Penney: You know, just those softballs.

Anthony "Lazer" Lazarski: As you would expect, overall reaction around town on the hill has been and will continue to be mixed. Democrats generally opposing most of the nominees, Republicans generally is supporting them.

Typical reactions, we've seen this before in a new administration. Many of them have been called [00:02:00] unconventional. And as you just stated, made headlines by several of his cabinet, nominations as well as others. We have also one nominee, Matt Gaetz, Representative Matt Gaetz from Florida, who already withdrew his nomination to be attorney general.

So overall, there's around about 1300 political appointee positions that require Senate confirmations. I expect Senate Democrats to focus on attempting to stop the confirmation of only the most concerning nominees. Instead of going after

everything they're going to just focus on a few. I'm not sure exactly which ones, but they can include Pete Hegseth to be Secretary of Defense.

Tulsi Gabbard Director of National Intelligence, Kennedy Jr., Secretary of Health and Human Services, Lee's Zeldin, administration of the Environment Protection Agency, and some others. But as a way ahead, I expect the Senate will confirm most of the nominations. Traditionally, they usually in the past have required 60 of the 100 senators, but in [00:03:00] 2013, Senator Harry Reid changed the rules using the nuclear option.

So, they only need 51. So, Republicans have a 53 seat majority. And so, he can afford to lose 3 Republicans with the vice president breaking the tie. So, two quick comments. He's been planning for this for 4 years. And if you've watched how quickly he's filled out all his nominations, it shows that number one, he wants to get them all, announced.

He wants to get them up to start hearing, start the process, and then try to get them quickly confirmed. Unlike when you saw in his first administration, and it typically takes about 25 days for cabinet secretaries. You can take up to 112 days or more for all the other positions. And then the last thing you've been hearing is recess appointments.

And I don't want to get into all the details, but the bottom line is the President has the power to, recess appointment vacancies and they stay until the end of this congressional term. So they would be there till 2027. And he's, as President Trump [00:04:00] has voiced his desire to do recess appointments immediately to fill key positions.

So, with the Republican controlled House and Senate, they could vote to recess together. However, I believe that Senate institutionalists will rule because they feel that overall, if they did this, even though there's been recess appointments in the past, but it would weaken the Senate confirmation process.

Heather "Lucky" Penney: Interesting. Well, you mentioned that Pete Hegseth as the SECDEF nominee has been generating headlines, because it caught a lot of people by surprise. Any thoughts on what that would mean for airpower and spacepower, presuming that his nomination is approved?

Anthony "Lazer" Lazarski: Yeah, so he's just beginning the confirmation process, and that starts with closed door hearings with senators on both sides, then getting vetted by White House Counsel Office, Office of Presidential Personnel.

FBI and then Office of Government Ethics, as well as other ethics organizations, and then there'll be a hearing in front of the Senate Armed Services Committee. Then he has to be reported out of that committee, and then needs [00:05:00] to get a confirmation vote on the Senate floor. So, as you just brought up, if he gets through the nomination process, it could get held up along anywhere along the way that what we were just talking about.

To include being held on the floor by a single senator. So, I've heard mixed feedback on Pete Hegseth's confirmation getting through and I believe that we're really not going to know what's going to happen to him until he gets through the meetings, the vetting, and then get the hearing complete. And the hearing will be a contentious hearing and I think there'll be tough questions asked on both sides as they've already started to get asked behind closed doors.

As for impact on airpower and spacepower, Pete's a veteran. He served in Army National Guard from 2002 to 21. He's deployed to Iraq and Afghanistan, two bronze stars. He understands the military and its use of force, and he has a love for our nation and its military and its families. That's all positive. And while he's not an expert, in airpower and spacepower, [00:06:00] his operations in Iraq and Afghanistan were supported by the use of air and spacepower. And that's a great start. So, if confirmed our Air and Space Force's leadership need to ensure that he's aware of our capabilities, our shortfalls, and our requirements.

Lt. Gen. David Deptula, USAF (Ret.): Heather, let me jump in there and say, it's not just our Air and Space Force leadership.

It's also the Mitchell Institute. So, we're going to be doing a lot of our best, to provide information that will increase the awareness of the military related nominees about the virtues and values of air and space power. That's why we exist. And you'll see more and more publications, coming out, shortly, that some of these nominees, should view as useful.

Anthony "Lazer" Lazarski: And it's across the board. You're exactly right. You know, if he gets confirmed, we need to, um, get with him and brace him and show him what we can do across the board.

Heather "Lucky" Penney: And it also sounds like whoever will be nominated for the Secretary of the Air Force to play a very important role in educating and, and advocating for the Department of the Air [00:07:00] Force across the DOD.

So, what about this idea of the DOGE? The cost cutting group headed Elon Musk and Vivek Ramaswamy? Is this hype or is it real? I mean, everyone

agrees government can be more efficient and we all have our personal lists of what we'd cut, but doing it is a very different deal. What are the implications for defense?

Anthony "Lazer" Lazarski: And you know, waste when you see it, right? So I think the, I think the intent is real, but the question is, does the intent become reality? And I think you hit on a lot of key points. So, President Elect Trump said, DOGE would work with the White House office of Management and Budget to dismantle bureaucracy.

That's a good thing, right? Slash regulations, cut wasteful spending. It depends what wasteful spending is and then restructure federal agencies. And again, what does that restructure do? So, Elon Musk and Vivek Ramaswamy, who's going to lead the co-lead the DOGE said they'll focus on driving change through executive action, which there's some concerns about that because they [00:08:00] don't want to rely on existing regulation or passing new laws.

So, how much can they really get done by executive action? And then what is Congress going to do to stop what they're trying to do? Because it needs to be a collaborative process. They also want to inject themselves into the budget process, immediately searching for cuts as not only in FY 26, but it could potentially happen in FY 25.

If we kick the budget into the next Congress and the next administration. And then their support, okay, great. There's support for reducing regulation, streamlining the government, reducing weight. But there's concern that neither of them understand how to accomplish their goals and the potential second and third degree effects of implementing some of those executive order and some of their goals.

So, there's concern. And I also think that they're going to run and I, and I use the bureaucracy word, but they're going to run into bureaucracy of government and they got to learn also that Congress gets a say.

Heather "Lucky" Penney: Now, it'll be interesting, especially because a lot [00:09:00] of the consequences of dollars, you don't see that impact for another year or two years.

So, you could see unintended consequences downstream significantly that you didn't necessarily anticipate. And so it won't be able to provide, uh, near term redirection and re-vectoring. Gen Deptula, if the DOGE asked you to speak about gaining efficiency and defense, what would you offer as advice?

Lt. Gen. David Deptula, USAF (Ret.): Well, um, you all have already raised some interesting points, but let me take the discussion up to the strategic level. Uh, first of all, what I would share is that the focus of the Department of Defense should be on war fighting effectiveness, not business efficiencies. For far too long, most Department of Defense analysis and procurement decisions have been focused on cost.

When the more appropriate measure of effectiveness should be cost effectiveness with the penultimate measure of effectiveness being cost per [00:10:00] effect. I'll talk a little bit more on that later. But I think right up front, it's vitally important for the Department of Government Effectiveness (Efficiency), that's what DOGE stands for, their leadership to understand that war is the most inefficient endeavor that human beings have ever devised.

The Department of Defense does not exist to make a profit. It exists to provide for America's defense. To win our nation's wars. Therefore, it's incredibly dangerous to think that applying efficiencies that serve business well will do the same in achieving the goals of the Department of Defense. In fact, the Defense Department has been plagued for decades now by well meaning business people coming into senior Department of Defense positions applying commercial principles to the [00:11:00] defense enterprise.

And that's exactly why in many cases the current U. S. military is woefully unprepared for major regional conflicts. And because of their focus on efficiency, instead of effectiveness, we may just lose our next major war. Let me give you an example. The notion of just in time delivery might work really well for FedEx. But it's a curse to a warfighter.

As a warfighter, I don't want just in time delivery. I want mountains of munitions stockpiled throughout all the major combatant commands around the world. Now, I don't often do this, but I live this for real in fighting two conflicts separated by 10 years and the differences that I observed during each.

During Operation Desert Storm in 1991 as the air campaign planner, I was expending about 5,200 [00:12:00] bombs a day. Back then, we still had sufficient stockpiles of munitions and no one called me up to tell me to ease up on the attacks because we were running low. But 10 years later, as the commander of the Combined Air and Space Operations Center at the beginning of Operation Enduring Freedom, the response to the 9/11 attacks of Al Qaeda, and their supporters in Afghanistan, we were expending about 250 bombs per day.

And after about four weeks, I got a call from the Pentagon telling me to slow down expenditures of GPS guided weapons because the inventory was getting low. If I fast forward another 10 years during Operation Inherent Resolve, the average expenditure of bombs was only about 74 per day. The bottom line is that today we don't have sufficient stores of munitions to conduct a high intensity conflict for even weeks or months on end, much less years, as we're seeing in Ukraine. [00:13:00]

Worse, because there was a major consolidation of defense contractors in the 1990s and ever since, driven by seeking defense efficiencies. Our defense industrial base today is simply incapable of rapidly producing necessary quantities of warfighting materiel, even if we wanted it to.

Now, Heather, you've talked about this in the past, but I'll remind our audience by the end of the 1990s, the number of aerospace and defense prime contractors shrunk from 51 to 5. And the number of suppliers for key defense capabilities, such as tactical missiles, fixed wing aircraft, and satellites also declined dramatically.

Just as an example, 90 percent of U. S. missiles now come from just three sources. And fighters and submarines are only built by two. So, [00:14:00] the Department of Government Efficiency or DOGE should be concerned with this excessive defense industry consolidation and the negative impact it's had on innovation, competition in the supply base. The trend toward fewer and larger prime contractors could in fact result in even higher prices for the American taxpayer.

But most importantly and this is what I really want to get across. The current situation does not bode well for the defense of our nation. Furthermore, it undercuts President elect Trump's philosophy of peace through strength. So, that's what I'd tell the people running DOGE. They need to explore options for how to best invest to rebuild our defense industrial base if the new president is serious about deterring China, Russia, Iran, and North Korea from a hot war. And winning if they're not deterred.

Heather "Lucky" Penney: I fully agree. If we don't have a strong industrial [00:15:00] base we won't have the ability to deter and shape. So we need to have the volume, the resiliency, the surge capacity, the elasticity, and the diversity across the industrial base.

Lt. Gen. David Deptula, USAF (Ret.): Yeah, the world's an incredibly dangerous place. We've said it before on these podcasts and in our publications

and editorials. Um, that the United States has never faced the array of threats that it's facing today. And here's one more that I'd tell the DOGE leadership, and that's that unfortunately, due to decades of underfunding and neglect in recapitalization of its now geriatric combat aircraft, the Air Force is now the oldest, the smallest, and the least ready it's ever been in its history.

And I'd repeat that because while of you, all of you have heard me say that before, I dare say the DOGE leadership has not. So, the number one recommendation coming out of the DOGE should be to rebuild the Department of the Air Force because it is the nation's indispensable military department. Because [00:16:00] no joint force operation can be conducted without some element of the Department of the Air Force.

So, they've also got to watch time. It's one of the most important attributes. We have to generate a modern capable force ASAP, given that the Air Force is literally in a death spiral, losing force structure every year in the future with no end in sight and the Space Force. Is woefully undersized given the responsibilities assigned to it.

Heather "Lucky" Penney: Couldn't agree more, you know, I'm just sort of taken by your example of munitions and how you had the Pentagon saying, "hey, slow down, you know, don't use up so many munitions." At a measly 250 bombs per day? It's just, it's ridiculous to me. Let's give the bad guys a break. You know, when it comes to efficiencies with being the oldest and the smallest and the least ready, the mission capable rates of our jets are in the toilet and they're super expensive to operate.

And the reason why is because they're so [00:17:00] old. So, if you want to be more effective and cost efficient, responsible, you need to be able to recapitalize and get those newer jets on the line so that they're, you know, more effective, more cost effective to, to operate with higher mission capable rates.

Lt. Gen. David Deptula, USAF (Ret.): Yeah, one other thing I'd like to add, Heather, is that we also need to look at how we're generating combat capabilities and capacities.

Um, there needs to be agreement on what sort of combat options we want, given the world we face. So, what do the combatant commands really need to meet the demands of our defense strategy? Not just some arbitrary budget level that a group in Congress, um, or in the DOGE says that's affordable. So, with that in mind, I'd tell the DOGE leadership to learn about and employ cost per effect analysis rather than unit cost to optimize our defense expenditures.

In other words, what does it take to actually create the efforts [00:18:00] desired against a particular target? Then, I'd encourage them to learn about the severe encroachment that the Army is accomplishing by going after air and space force missions as they seek relevancy in a fight against China. They need to clean up the roles and missions and kill sub optimal expensive solutions. There's no clearer example on the table than the Army's long range hypersonic weapon and its corresponding high accuracy detection and exploitation aircraft, to discover targets for these missiles that cost 50 million a shot. That's a one way, one shot missile. Looking at driving further consolidation under the space force is also key.

Why is the Secretary of Defense allowing the Army to generate its own internal space capabilities? Look, the reason that President Trump stood up the Space Force was to [00:19:00] consolidate space functions. Not keeping them distributed among all the other services and multiple duplicative agencies out there.

Why does some of the major DoD intelligence agencies still have vast space capabilities and capacity separate from the Space Force? We can't afford this continued subversion of the purpose of setting up the Space Force as it fosters duplication of effort and lack of unity of effort. Both elements that undercut not just efficiency, but effectiveness as well.

So, what we cannot do is further erode Air Force and Space Force capabilities by kicking the can on modernization and betting on postulated but unproven solutions. Secretary Kendall had it right when he said, quote, "we're out of time" unquote, and that reality will not change even though the administration will.

Heather "Lucky" Penney: Yeah, if you take a look at 2027, the Davidson window, that [00:20:00] is within the FYDP. So, Boots, thoughts to add from the space perspective?

Jennifer "Boots" Reeves: Well, I'm really going to pile on to what the boss said, right? The bottom line is we need to focus on how to optimize war fighting capability for the space domain. And I mean, honestly, it's a really good time to do that because we're just a couple of weeks away of the 5th anniversary of the stand up of the Space Force.

And we just celebrated the 5th anniversary of the stand up of US Space Command. And so, you know, in my leadership management, organizational kind of brain, this is a great time. To look back and make sure that we're doing what we intended to do with the stand up of these organizations. Um, and and

not just that, not just looking at how the organizations are faring and what they're doing, but how does that fit in the context of the greater enterprise?

Right? It's about roles and responsibilities. I [00:21:00] agree with General Deptula that there are too many organizations with overlapping capabilities. And here's the thing, if we had all the money in the world, well, you know, maybe we could consider letting more organizations do duplicative things. However, we don't have all the money in the world.

We have to be, to some extent, efficient. And then on top of that, when you have these duplicative efforts and fuzziness in the roles and responsibilities of what organizations are doing. Then we further have operational problems and that's the most important thing as General Deptula mentioned. The bottom line is let's look at efficiency, let's look at roles and responsibilities, and then let's make sure that the Space Force is getting the resources it needs to execute on the mission that it has so recently been stood up to execute.

I think we're right there and it's a perfect time to do it. We've got a new [00:22:00] administration. They're standing up this exact office to do this exact thing. So, let's do it and reevaluate, uh, what we've done and evaluate, um, how far we've come and what has to happen in the future.

Heather "Lucky" Penney: Yeah, I mean, as you said, we need to be able to consolidate all of those space capabilities underneath the Space Force, rather than have, you know, the redundant capabilities that are really driven by bureaucratic fiefdoms.

So, General Deptula, Elon Musk took some pretty direct shots at the F 35 on X the other day, basically saying the era of manned combat aviation is done. What do you think about that?

Lt. Gen. David Deptula, USAF (Ret.): Well, Heather, um, Elon Musk has been making these sort of comments for years. Given his new influence with the president elect, uh, perhaps now he'll take some time to get up to speed on the realities of force structure optimization.

That's actually required to fight and win. Elon [00:23:00] envisions artificial intelligence enabled drones is the future of air combat because of his vision that they should be cheaper and more versatile than inhabited aircraft. However, national security cannot rely on prophecies alone. There's no doubt about it that drones are affecting the character of war.

But futurists like Elon often overlook the pragmatic realities of the profession of arms, threaten foreign force design, along with the doctrine, principles, strategies, tactics, and technologies that lead to winning in an actual fight. Now, with respect to uninhabited aerial vehicles, uninhabited vehicles, all around, whether they operate in the air, in space, on the ground, or at sea, no one will find bigger advocates than all of us here at the Mitchell Institute.

Our publications over [00:24:00] the years, our work fostering the development of collaborative combat aircraft, or CCAs, MQ 9, and beyond, is proof of that. It's not just a, you know, an arbitrary statement. Um, from my own personal perspective, as the first Chief of Air Force Intelligence Surveillance and Reconnaissance, I created the key initiatives and took action to get drones recognized, funded, and normalized as crucial elements of the Air Force.

I increased the capacity of MQ 1 and MQ 9 remotely piloted aircraft orbits by over 400%. And I created the first Air Force remotely piloted aircraft flight plan that outlined initiatives from 2009 to 2047, the 100th anniversary of the air force, from doctrine to materiel the policy. That balances early air force drone lessons learned with emerging drone technology, and I could go on, but the point I want to make is at the end of the day, it's not an [00:25:00] either or question.

The real answer is that today and for the foreseeable future, we'll need both. The reality is that humans bring a fundamental set of qualities to the battle space, especially when it comes to complex decision making that artificial intelligence and drones cannot yet achieve. And even when artificial intelligence is further advanced, there will still be limitations, especially when it comes to the predictability, not just the predictability, but also if the algorithms are discovered. They can then be changed and turned around on us.

So, Elon should know this given that Tesla's still hit parked cars, despite his engineers working really hard to avoid that. Air combat is far more challenging. Added to that, if you take a look at long range kill chains, they're very fragile.

Heather "Lucky" Penney: Yeah.

Lt. Gen. David Deptula, USAF (Ret.): If we want uninhabited [00:26:00] systems to meet a cost point that allows high numbers, which is a key tenant of collaborative combat aircraft, then we need to off board many of the high end processing functions that requires data links.

And long range data links are fundamentally, able to be, interfered with. So, this is another key reason why the Next Generation Air Dominance penetrating combat aircraft, the F 35 and the B 21 are so important. They're the necessary high end processing nodes within the battle space and their proximity to uninhabited systems will provide for shorter, more resilient linkages.

Now, where we're really strong is when we combine the positive attributes of inhabited and uninhabited aircraft. We can adjust the attributes of that construct as circumstances warrant. Because right now, it's not [00:27:00] possible with killer robots that are wholly autonomous. And I'd share with you, and I think that a lot of people out there would tell you, it's doubtful that policy is even going to allow wholly autonomous systems.

At least anytime soon. Let me wrap this up with your question on F 35.

Heather "Lucky" Penney: Yeah.

Lt. Gen. David Deptula, USAF (Ret.): I would hope that Elon will spend some time talking to the people that have actually employed the F 35 already in combat. The aircraft is incredibly capable. It's a bit perplexing. Did he forget how Israel, um, just a few weeks ago executed a major strike with their F 35s flying into the heart of Iran? Flying nearly a thousand miles without a loss!

That operation saw Israel's F 35s evade and dismantle Iran's Russian supplied air defenses, some of the most capable in the world, marking a major [00:28:00] achievement. That was far from easy. The success not only underscores the F 35's operational value, but it also raises questions about the efficacy of Russian's advanced air defense systems which failed against the F 35's low observable capabilities. So, the F 35 scored a huge touchdown in real combat.

I'd also remind our audience that the current fighter force was largely procured in the seventies and the eighties, and it's well past time for replacement. And today, the F 35 is the most effective, affordable option, to get to both capability and capacity.

A wing of F 35s properly used against Russia today without any of the self defeating constraints the Biden administration's put on U. S. weapons provided to Ukraine could crush the Russians current [00:29:00] operations and completely change the outcome of the conflict. One more piece, the allied interoperability element is an enormous strategic advantage of the F 35 program that's often overlooked.

Partners operating the F 35, they don't just bring our air forces closer together, they bring our nations closer together and makes our alliances even stronger. A little bit of a factoid that General Hecker uses in his speeches. When all the European nations get all their F 35s, they'll be equipped with over 600.

In Europe, the U. S. will only possess about 50. That's hugely stabilizing for NATO and of enormous deterrent value. So, I hope these are some of the facts that Elon will take some time to absorb, question, and I think that's and think about.[00:30:00]

Heather "Lucky" Penney: I couldn't agree more. I'd like to pile on a little bit here. I mean, because it could be you can make sense if you think, oh, is Elon thinking that's hey, SpaceX is pretty amazing. Take a look at all the things that they're doing with recovery and Tesla, you know, they've got all sorts of driving capabilities. But people need to remember that the autonomy and the algorithms that Tesla is using is based off of billions and billions of data points that they're collecting on every single vehicle, every single Tesla that's out there driving today, and we simply don't have that same level of data collection in today's combat aircraft, right?

So, that's not getting fed into CCAs and also SpaceX again very impressive what they're doing. But that's a very different thing from flying into a contested threat environment that's highly capable and very advanced.

So, in a dynamic battle space, human cognition, will always provide better resiliency and ability to operate and make decisions and take action through the fog and friction of war, through ambiguity in ways that algorithms won't be able to handle.

[00:31:00] So, JDAM, in the context of all of this, China just held one of their major airshows and unveiled a lot of new technology.

So, could you walk us through those highlights?

J. Michael "JDAM" Dahm: Yeah, yeah. Let's shift gear from the spectacle in Washington to the spectacle in Zhuhai, China. So, the China airshow is held every two years. It's opposite the Paris airshow, and it's really much more than an airshow. It's more of an international defense expo.

Showcases everything from grenade launchers to bombers, right? There's something for every autocrat on your Christmas shopping list. The Russians

showed up, in force at the China air show. They'd been at the show before, but this year they brought, an SU 57 to show off for the first time outside of Russia.

SU 57 is something of a poor man's fifth generation fighter, maybe, maybe more of a 4.5 gen fighter, but it does some really cool maneuvers like the, falling leaf maneuver, uh, in these low altitude flight demonstrations. So, it's a real crowd pleaser. I got [00:32:00] to attend the China air show a few years ago to see this event firsthand.

And I think it's important to keep in mind that what's at the show is a lot of prototype aircraft and concepts on display. Not, not everything is going to end up in the Chinese military. You know, for example, there was a model of what the Chinese are calling a sixth generation fighter aircraft, called the White Emperor. It's stealthy, it's AI driven, supposed to have hypersonic speed and near space flight capabilities, but this Chinese mock up, I mean, that's all it was, was a mock up, it's not flyable.

It's really, it's even less real than, uh.

Heather "Lucky" Penney: No engines.

J. Michael "JDAM" Dahm: Yeah. I mean, it was like what was the aircraft in the last Top Gun movie flown by Tom Cruise, the Dark Star, which was based on real Lockheed Martin technology, but this is basically Chinese aircraft designers poking at us and saying, look at how far ahead we are.

But, there are a lot of headlines over the past few weeks about this new technology on display at the air show. But I think we should probably talk about. These things as [00:33:00] technology that's new to China, not technology that's necessarily new in the world. For example, the big news was the public debut of the J 35A, which appears to be a twin engine copy of the US F 35 that we were just talking about.

So, you know, if these two aircraft are comparable and that's a big if. Okay, the Chinese might be 15, 20 years behind the U. S. in terms of developing that, uh, that aircraft. Other examples include the debut of the HQ 19 surface to air ballistic missile system. Basically a copy of the U. S. Army Terminal High Altitude Air Defense System, or THAAD.

Which again has been in the U.S. Inventory for over 15 years. So, I could keep going down the list with examples from the rest of the show, but the bottom line

is the Chinese are still about 15 years behind the US in terms of advanced technology, but the rate at which they're catching up is concerning.

Heather "Lucky" Penney: Okay, so what are your thoughts on how the U. S. should respond to these [00:34:00] Chinese investments?

J. Michael "JDAM" Dahm: Well, I can just echo a lot of what General Deptula and Boots have been saying. We need to keep making technology investments. We need to recapitalize our force with the latest technology. But more than anything, we, we need to turn research and development, production and fielding of new capabilities and platforms faster, right? We just need to increase the cycle speed. The Chinese have been stealing a lot of technology that has allowed them, frankly, to out cycle us in terms of R&D and production.

Heather "Lucky" Penney: Second mover. Yeah.

J. Michael "JDAM" Dahm: But I stand by my assertion. The U. S. Is still ahead in terms of advanced technology. But if the Chinese keep cycling R&D faster and faster and faster, and we don't bring our weapon and production, you know, uh, numbers up and increase the efficiency of our system, like General Deptula was saying, then the Chinese are simply going to overtake us in the next 10 to 15 years.

Heather "Lucky" Penney: Yeah, if we're just making all these R&D investments, but we're not turning it into fielded capabilities through [00:35:00] production and procurement, then it doesn't make a difference. We're just basically funding Chinese development because they're stealing all of our secrets.

I want to dive into Russian IADS for Iran. And how Israel was able to defeat that and connect that to where China is today, because I know that there's a lot of hand wringing over our ability to be able to counter Chinese, air missile threats, surface to air defenses.

Can you speak a little bit more to that?

J. Michael "JDAM" Dahm: Well, I was going to address this a little bit later, but just to get to it now, I, think there, is something to be said for the threat density. In China versus the threat density, in Iran. But a lot of the technologies at play are similar.

So while, you know, while Israel was clearly able to leverage some of its fifth gen technology, some of its fifth gen capabilities to circumvent, the Russian IADs that were in place in Iran and find those gaps and seams in coverage. Those same types of [00:36:00] techniques should probably be applied to China.

Heather "Lucky" Penney: That's what I was curious about. So Boots, sticking with the China theme, the Chief of Space Operations, General Saltzman, has been highlighting their capabilities in recent speeches. What are your key takeaways regarding that?

Jennifer "Boots" Reeves: Mind boggling pace. So that's his exact quote, is that they are, that the speed at which China is building up their capabilities, is at a quote, "mind boggling pace." And it's exactly what JDAM was just talking about, right?

They are cycling much faster than we are, and are taking advantage of that. So, their buildup is happening at a much faster pace than we are from a military perspective. And we are actually going at this point. And so, I think that what we're talking about is not just their ability, you know, it's a Chinese GPS.

It's not just that. It's also more, offensive types of capabilities that [00:37:00] we're not really, um, diving into so much, right? Ours are all one-offs and tests and things that we've done years, decades ago, really. So, what's happened though, is that China has recognized our reliance on space based assets for the effects that they create both in our everyday life and certainly for the advantages they create on a modern day battlefield.

And, um, and I think they want to put this at risk. And I think that's what, the Chief of Space Operations is, is talking about that, we have a bit of it, I mean, what could be considered an Achilles heel that we really have to shore up and we have to go faster at shoring this up because the Chinese have recognized it as well.

And they're going after it. So, you know, one of the interesting things if I could offer this is that it's really hard for regular folks. I mean, people who are not in the day to day business of space operations to recognize this, right? Because you can't, [00:38:00] you don't see what's happening in space. Certainly not with these tiny assets that are that are satellites, right?

You're seeing twinkling stars forever away, but not what's happening right here, because you simply can't see them. There's no visceral experience like you would see with reporters or photographers on a battlefield, right? And so what

has to happen is that we there has to be some level of trust that what the Space Force is telling us is happening is actually happening because right there, there are no reporters in space who are there to take, you know, real time photographs of what's going on. So, we've got to believe what's going on. I certainly do. And we are seeing that China is coming at the United States, essentially with this mind boggling pace, burning up their ability to do more and more things.

And I'm with JDAM. I don't think that they are ahead of us yet, but they are certainly on that trajectory. So, we've got to [00:39:00] give this some attention. It's just hard for people to see this and you don't feel it or see it. And so we've got to believe the Chief of Space Operations. He's saying that it's coming at us at a mind boggling pace and there you go, we need to react.

Heather "Lucky" Penney: So, Boots, there have also been other space developments here in the U. S. For example, Anduril, a company we normally associate with air systems, has gotten a major space contract and there are developments with ULA. So, could you walk us these and, what are we missing?

Jennifer "Boots" Reeves: Yeah, sure. So there's a couple of big things that have happened this month.

Uh, Anduril has, uh, received a contract to modernize, parts of our space surveillance network, which is very exciting, right? With a modern and machine to machine communications network that will link the sensors that observe the space domain. As I mentioned, it's hard to see, and so we have a network of sensors out there that, that actually take in data about what's happening out there, what we see in space.

It's replacing, um, a 40 year old [00:40:00] system, uh, with data speeds that are so slow that we can't even comprehend anymore how slow they are. This is going to be called the Space Domain Awareness.

Heather "Lucky" Penney: Like dial up space.

Jennifer "Boots" Reeves: Oh, oh yes, it's actually one tenth the time, one tenth the speed of dial up telephone.

Heather "Lucky" Penney: Wow.

Jennifer "Boots" Reeves: So, think about that. I mean, youngsters don't even know what a dial up telephone is, so, uh, and it's a tenth of that.

Heather "Lucky" Penney: Thank goodness Anduril is coming in to accelerate the pace of that machine to machine data transfer.

Jennifer "Boots" Reeves: Absolutely. New system, dramatically increased connectivity between sensors, C2 systems, and data platforms. So, it's going to be great. Now, ULA, um, it looks like there may be a slip in Vulcan certification into next year. The bottom line is, I mean, we have to understand how brutal the launch schedule is, right?

So many things we're trying to get up into space and it takes 2 nominal launches to certify for national security space launches, right? To get certified in their class. and while it's happening, they [00:41:00] need another launch to happen. And because of the continuing resolution, the contract to do this is actually in limbo.

So, a plug there that we've got to get the budget approved as soon as possible so that we can actually get some of these things going. It's actually affecting our ability to get payloads to space. Also, Raytheon was just awarded a contract for the next software upgrade to OCX. Right? And OCX is the modernization of our GPS ground control infrastructure.

So, I mean, this is tremendous news that we're going to keep that modernizing and it will enhance the navigation signal accuracy and cyber security for everybody, not just the military, uh, applications. So, some, you know, really the big news, right, was the election in November, but a couple other big things in the space world are happening and I'm glad to get to talk about them.

Oh, fantastic. So, General Deptula, just before Thanksgiving, Mitchell hosted our first Air Power Futures Forum, and we had the Chief of Staff speak, as well as a lot of other key [00:42:00] leaders. What were your main takeaways?

Lt. Gen. David Deptula, USAF (Ret.): Well, Heather, let me start and remind folks, actually, I don't think they need reminding, but some do.

We're still in the middle of a historic era of change. For many years now, we've been transitioning from the industrial age of warfare to an information age. Now, our goal in setting up this Air Power Forum was to allow the Air Force leadership, industry and science and technology leadership, talk about this change, explain why it's occurring, and then discuss challenges and opportunities.

I'm very pleased to report that the proof of its value was that the event was very well received by the Air Force Chief of Staff, by Lieutenant General Dave Harris, the Deputy Chief of Staff for Strategy, Integration, Requirements, and perhaps most importantly, the audience. As a result, we intend to make this an annual event to provide [00:43:00] this venue for the Air Force leadership, to articulate what's on its mind and what it's planning on doing. In that regard, it was the first time that the Chief of Staff spoke about the Air Force's New Force design concept. Now, we've all heard a lot about the Air Force's reorganization. Um, or what the Chief prefers to call re optimization.

And that's about the way in which the Air Force enterprise is constructed. Force design sets the stage for how the Air Force envisions fighting. The primary Air Force, force design documents are classified, so the Air Force leadership did their best describing its general characteristics. The bottom line is that there's a lot of focus on the Air Force's core missions.

Air superiority, global precision strike, mobility, ISR, and command and control, and how to best secure these effects. The one force design [00:44:00] document, which General Allvin signed on October 4th, is a framework for the Air Force to build its force structure tailored to the complex threats of Great Power Competition.

So, it capitalizes on trends and analysis to develop the right mixture of capabilities to be employed in an integrated manner with the other service components, in, uh, the combatant commands and our allies and partners. General Harris addressed how the force design uses an analytic approach based on three mission areas that are defined by the density of the threat, around the world.

And then the Chief emphasized that the force design is about taking back the offensive, reaffirming that airpower is at its best when it's on the attack. And we certainly concur with [00:45:00] that. But overall, it was an excellent forum. And like I said, we're going to now do this every year.

Heather "Lucky" Penney: You know, sir, you said something at the beginning regarding, an era historic change, transitioning from an industrial age warfare to information age warfare.

And I would actually argue that what's really interesting is how those things are merging because the industrial capacity still matters. We still need widgets and airplanes and missiles and bombs and things like that, which is fundamentally industrial. But what's different is in how we're merging information through

autonomy, advanced processing, data links, et cetera, to really make those far more effective.

Lt. Gen. David Deptula, USAF (Ret.): Yeah. This goes back to some of the comments I made in response to an earlier question, uh, you know, numbers matter, capacity matters, but there's a difference between capacity, sufficient capacity and mass.

And so we need to be careful that we don't confuse those two because, yeah, efficiency is [00:46:00] important, but only when it comes to assuring the effectiveness of the U. S. Department of Defense. And that's what we have to really carefully balance. It goes back to the fact that we've eliminated much of our defense industrial base, so we no longer have the capacity to build the capabilities and the quantities that we need.

So, this is not an easy thing where you come in and you do a 90 day assessment of a particular store and then come up with some new efficiencies.

Heather "Lucky" Penney: Yeah and I want our listeners to understand that, uh, you know, it's software matters, but software alone is not going to make the difference. We need to ensure that we've got the industrial base, uh, and the industrial capacity to make a difference as well.

So, JDAM, what were your thoughts from a China's lens regarding what you heard and saw at the futures forum?

J. Michael "JDAM" Dahm: Yeah. So, when it comes to talking about the threat, you know, you get the same answer to the questions that you get when you ask about force design. It's [00:47:00] classified. So, Air Force leadership is clearly concerned about, you know, these increasingly sophisticated and dense threats.

And I'm not saying that they shouldn't be concerned. They should absolutely be concerned. But, you know, it's like Secretary Mattis used to say, the enemy gets a vote. So, this goes back to the question that you asked about how the Israelis defeated the Russian IADs in Iran, in that strike, uh, several weeks ago.

So the Chief of Staff, uh, in his presentation had these two slides with maps of China, right? The first map represented the surface to air threats in China about 20 years ago. Lots of scary range rings, but you know, there were also a lot of apparent gaps in coverage and the threats weren't, that widely dispersed.

So, then he shows this map of the surface to air threat today. This incredibly dense set of range rings.

Heather "Lucky" Penney: All of them overlapping red.

J. Michael "JDAM" Dahm: Right. Long range threats, virtually no gaps in coverage. The problem here is that each one of those rings [00:48:00] represents the maximum range of those Chinese missiles against a target with the radar cross section of a jumbo jet.

So, I'm sorry to report you heard it here first on our podcast. If it comes to war with China, we will not be attacking with jumbo jets. The point is that these, you know, just like in the Israeli strikes, right? Our low observable or stealth technology and advanced electronic warfare capabilities ultimately make all of those range rings smaller, potentially revealing gaps in coverage.

So, we need to leverage our technology. We need to leverage those advantage in our, in our tactics to work through the challenges the adversary is presenting. We can't just curl up in a ball because there are more scary range rings in front of us. And we think that as soon as we fly across that line, you know, the aircraft are going to catch on fire and fall into the water, instantly vaporize, right?

But I go back to what I said before, there should be some real concerns in the Pentagon and in Congress about [00:49:00] how China may be out cycling us in terms of capability and countermeasure development.

Heather "Lucky" Penney: You know, it goes back to what I've said for a long time, is that the third offset is really about time.

Having those, accelerating those cycles is what's going to provide the better advantage. And whoever's able to achieve that is gonna win. So, Lazer you were there at the futures forum. What were your thoughts? And how's the Hill responding to all of this?

Anthony "Lazer" Lazarski: I thought it was outstanding. I thought General Allvin did an amazing job.

What I really liked was the audience, the table I was at. It was a mix of everyone. Like you said, industry and international partners. I also like the discussion that happened in between the different, panels. So, overall success and General Deptula I was just thinking about this. So we invite Elon Musk and

Vivek Ramaswamy to be on a panel next year. And then they can talk about everything that we were just talking about and how this fits in. Um, but the Hill, they were a little [00:50:00] preoccupied. Just came back from an election, just came back into session, trying to work defense bills and all this other stuff where the focus really has been on staff.

But the one great thing and General Deptula and Heather you brought this up, but industrial to information age. I mean, it's not just the Department of Defense, it's the United States. And that's actually what Congress is trying to get their arms around right now. I mean, not just on DOD, but looking at everything else.

And I think that we can help shape this. And I think this forum will help shape it when we do this next year. And I don't know when this will be next year, what the timing is, but we just have to look at it from a congressional point of view to make sure that we can get more in attendance.

Heather "Lucky" Penney: Thank you for that.

So as we wrap this Rendezvous, uh, Lazer what else should we anticipate in the coming weeks? Congress still needs to fund the government. We talked about that with Boots. We can't afford to have another CR and this one is ending soon.

Committee assignments will happen and we're waiting to see more defense picks. So what are your thoughts in, uh, in the Crystal Ball?

Anthony "Lazer" Lazarski: Yeah, so [00:51:00] 12 days and 14 days of session left, depending on how you want to look at House and Senate. So, not enough days to accomplish what they need to get done. What they focus on number one, there's going to be disaster relief supplemental funding bill. How that gets packaged by itself or with the NDAA or with CR or if we're lucky Approps bills, but that's number one. Obviously, President Biden is going to continue to focus on judicial nominations, getting those confirmed. Congress is trying to figure out what the heck the top line is for the appropriations bills, which then would allow us to do appropriations bill.

And then you brought it up. The continuing resolution is the last big piece. If we take a look at what's going on there is a path forward to try to get the appropriations bills done before Christmas this year, but they would have to agree to a top line at the beginning of this week so that they could start putting the bills.

Let's just say this week, but they have to come to an [00:52:00] agreement and that's going to take President elect Trump. It's going to be the Biden administration and Congress to come to this agreement. Um, most people believe that we will be kicking, doing another CR and. Pushing off the appropriations bills until next year.

There's some discussion about possibly doing it after January 3rd before the 20th, or there is a possibility of getting it done in March. I think everybody is sort of leaning toward getting this done in March, but I'll stay hopeful and maybe we'll get an early holiday present to try to get something done on the top line by the end of this week.

The other things that are out there, though. We still, um, have a defense authorization bill that's being worked. I know that the House and Senate Armed Services Committees continue to try to resolve around a dozen issues. They should be fairly easy to get resolved, but they don't have a top line either.

They've been waiting for [00:53:00] appropriation. So where do they go? Do they go from an FRA level or do they go plus the \$25 billion that the Senate has done and I'm not really sure where they need to go, because we all know in the end, I don't care if it's done this year or next year, there's going to be increase in defense spending.

So, the timing for that bill, it looks like they will do some sort of partial page turn this week on the defense authorization bill, minus whatever top line agreement they're going to get done. And then there's also some airdrops add-ins at the end. That usually will come from leadership. The two that have been talked about most is China, and then some AI.

And what it looks like is that, uh, the AI will not make it in, the bill this year, but what they are working on is restricting US investments in Chinese technologies that pose a direct threat to our national security. So that, looks like, that'll probably make it in the bill. So if you take a look, they'll hopefully get it filed.

Maybe not the first week of December, but they will get it filed by the second week and then try to [00:54:00] clear the NDAA before they go for the, uh, holiday recess adjourned for the year. The other things that they're going to come into as soon as you get back, you have a debt ceiling limit. I expect that to get fixed on the continuing resolution and then we're right into the inauguration and the budget's supposed to come out on the 3rd of February next year, which

we know is going to get kicked into March, which may also coincide with us trying to get appropriations bills done.

So not in a great position right now. A lot to do not a lot of time to get it done.

Heather "Lucky" Penney: Yeah, that's a lot of work to do in the remaining, uh, weeks of December. So, we'll grade your assessment in January, the next Rendezvous. But, uh, everyone, thank you so much for making the time.

We appreciate you being here and your insights.

Lt. Gen. David Deptula, USAF (Ret.): Okay. Thanks Heather. This was a good session today. Lots of information that was covered.

Jennifer "Boots" Reeves: Thanks Heather. Always glad to be here.

Anthony "Lazer" Lazarski: Thanks a lot. Great Rendezvous.

J. Michael "JDAM" Dahm: Thanks Heather. Happy holidays and happy New Year's to all our listeners.

Heather "Lucky" Penney: With that, I'd like to extend a big thank you to our [00:55:00] 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 subscribe to the Aerospace Advantage. Thanks. 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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