

Center for Strategic and International Studies

TRANSCRIPT

Event

Delivering Space Capabilities for Warfighting Advantage
**The Solution Space: How Industry is Evolving to Deliver
Space Capabilities**

DATE

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FEATURING

Major General Stephen G. Purdy, Jr.

*Acting Assistant Secretary, U.S. Air Force, and Service Acquisition Executive for Space, Office of
the Assistant Secretary of the Air Force for Space Acquisition and Integration*

Kay Sears

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Transcript By

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Sarah Mineiro: Ladies and gentlemen, we're going to get started if and when you all take a seat. Space community, so social all the time. OK, but for real. For real this time, ladies and gentlemen.

Major General
Stephen G. Purdy: That worked.

Ms. Mineiro: Mostly because most people are afraid of me.

Maj. Gen. Purdy: Yeah, the mom voice kicked in.

Ms. Mineiro: Oh, man, that was not even the mom voice. (Laughter.) The mom voice is so much more terrifying. Also, because I'm Korean, and Koreans are the angriest of Asians. (Laughter.) Yeah, here we go. This is going to be a great panel, y'all.

All right. So, my name is Sarah Mineiro. I have the pleasure of being a senior nonresident fellow here at CSIS and doing all other sorts of sundry things around town. Once upon a time ago I made terrible life decisions, and I worked on Capitol Hill as the staff director for the Strategic Forces Subcommittee where we drafted the language for the establishment of the Space Force.

A bunch of people in here still have not forgiven me for that and I'm sorry. I will buy you drinks later.

This is really a fascinating panel that we have today. Last week Secretary Hegseth talked about acquisition reform, acquisition reform that started, quite frankly, and has been needed for a long time but started also on Capitol Hill in both chambers, and the question then becomes when you look at space there has been a lot of discussion.

You know, the space community is infamous for being very insular. I tell people that the space community is, like, the same seven people licking the same ice cream cone at different RPMs. You're just going to run into each other all the time.

And so, then the question becomes in that kind of an environment how do you take those larger acquisition reform movements that are needed across the entire department and how do you make them and tailor them specifically to the Space Force so that we can deliver warfighter capabilities.

You know, space – and the Space Force being such a small kind of force but the budgets, the programs, and the warfighter impact, quite frankly, are outsized for every single one of the operators and acquirers, and to talk us

through both that perspective from the acquisition point of view and from the industry point of view we've got a fantastic panel here.

They are so fantastic I'm going to let them introduce themselves because I could only do them injustice at this point. So, we'll start with you, General.

- Maj. Gen. Purdy: Sure. Steve Purdy. I'm the military deputy, the staff SQ, which is the space acquisition organization, and since January I've been the acting assistant secretary or the service acquisition executive for space, meaning that I run all the space acquisition programs until we get a political appointee in place.
- Kay Sears: Great. I was introduced earlier but I'm Kay Sears. I run space intelligence and weapon systems for the Boeing Company.
- Nick Bucci: I'm Nick Bucci with General Atomics. Before General Atomics I worked – share some history with Kay – I worked at Lockheed Martin for 27 years. Been with GA for the last doing many different things in the missile defense space and defense acquisition.
- Ben Nicholson: Good morning. Ben Nicholson. I'm the chief business officer with Ursa Major. We're a new entrant to defense with the heart of propulsion, both liquid and solids. By way of background, I started in the U.S. Coast Guard. Just wanted to see if any other Coasties are in here. (Laughter.) Not a lot of space in the Coast Guard, but there's usually one. Twelve years working on Capitol Hill working on appropriations where we talk a lot about acquisitions as well, trying to connect dollars and results. But pleased to be here with all of you. Thank you very much.
- Ms. Mineiro: Awesome. This is going to be great.
- We heard this morning from the CSO about acquisition, acquisition workforce. It was one of the issues that we dealt with when we were on the Hill. It was, quite frankly, one of the foundational reasons that people on the Hill, members of Congress, believed that there needed to be a Space Force and you've inherited just all of kind of the Air Force space programs.
- You've tried to manage kind of through that, and I think, quite frankly, admirably. There has been a lot of advancement in commercial participation, in requirements. You know, one of the things that is exceptionally brave for an acquirer to do or an acquisition person to do is to cancel a program.
- There have been programs that have been canceled, and all of that with a focus of delivering capability to the warfighter and the joint warfighter in a – you know, in a timely manner. Space Force now is about five years old. How is that acquisition workforce development not only in its current state now but where it needs to go in the future?

Maj. Gen. Purdy: Yeah. So, I'll start that, obviously.

So, acquisition workforce, incredibly complicated topic. Obviously, there's a lot of aspects to it. Culture, training, processes, procedures are all elements of that.

We have done a lot of good work in the last few years, as you've commented about, and so Honorable Calvelli was the first space acquisition executive, political appointee. Laid down his tenets and formula, basically back to basics. Hey, let's have fixed price. Let's have two to three years. Let's focus on executable contracts. Let's hold program managers and industry accountable.

And so really set a new baseline that allowed us to kind of clear out a lot of issues that were in play both in the culture and programs – canceled programs, et cetera. We've built upon that this last year. We haven't let grass grow under our feet as we've kind of taken over in January and we've built upon that foundation and moved on out and really done a lot this year that kind of foreshadowed SecWar's acquisition reforms, and I could go into a long litany of those later.

But the workforce question is really the key piece here because you have to have a strong, vibrant workforce to do the work and we're in a really interesting time and a troubling time. There is a strong, motivated force but there have been an incredible amount of pressures on them this past year just through circumstances.

We've had DRPs, obviously. We've had ANS cuts. We've had, obviously, shutdowns. And so that's been very difficult to try to continue to perform the job and so the teams out there have done fantastic for what they've had.

We also have a looming increase in acquisitions coming down the pike, and so that presents us with a really difficult situation of where we need to double down on our acquisition workforce, our acquisition training. We are in a situation where we barely have enough acquirers to do all of the work that we have now, particularly in all those atmospheric. And with increasing workloads and now with increasing foreign materiel sales, which is something that SecWar also mentioned that we're going to start reforming, that piles up upon us the number of requirements that we need to have acquisitions for. So, the number needs to increase in terms of what we have.

And then you have the training element. We have pockets of really great acquisition culture and experience across the space community and then pockets that sometimes struggle. And it's just a truism we don't – you never

have a hundred percent of all your best people across the force. And so, some organizations – and I'll credit NRO as one of them – has an amazing acquisition center for excellence, a unit that goes in and helps train acquirers. That's an element that we are looking to try to build in the Space Force. It's on the aspirational list; we haven't been able to get to it yet. But there's an example of something that we need to do to get after that personal level at the deep-down levels to help train the program managers so that they're doing a career's worth of program management, minimizing the distractions, getting some ops experience, yes, getting some EWI experience, yes, but then focusing the rest of their time on acquisition and then giving them that training to help build up their capability.

Ms. Mineiro: Yeah. I mean, I think it's interesting because the Space Force uniquely I think has to position itself in its acquisition force not only from a quantitative point of view but also a qualitative point of view, right?

Maj. Gen. Purdy: Correct. Correct. Correct.

Ms. Mineiro: And balancing that as you continue to grow the force I think is going to be instrumental as, again, you get more resources –

Maj. Gen. Purdy: Correct.

Ms. Mineiro: – you get more programs associated with those resources, and then you're also reforming department wide how you're doing things like requirements.

Maj. Gen. Purdy: Correct.

Ms. Mineiro: Right? And, like, some of these really foundational challenges. And I will say that I think, quite frankly, a lot of what people call acquisition problems are actually contracting problems and there's a subtle but important distinction there that I think also needs to be brought forward not only on the acquisition workforce but the contracting workforce.

Maj. Gen. Purdy: That's correct. Yeah, and I'll add in, so if you look at SecWar's acquisition reforms that he's laid out, a bunch of great initiatives and things we need to get after. But to your point, quantitative and qualitative – you need the numbers of people, and you need the quality to understand.

If you say go commercial and if you say, go after, quote, "new manufacturing mechanisms" and take advantage of all of the new space companies that are out there, for example, you need a larger number of people just to even track that activity.

You need to be able to understand all that's going on. You need to understand the incentive structure. But then, back to your point on contracting, we have

a serious issue here at a federal level on contracting and it's just the numbers of folks. We do not have the numbers of contractors that we need at a federal level. Every federal agency has problems, and so we do not have the right numbers that we need.

So, for example, in the past if we had an acquisition program and we would go 20 years and it would be with one prime, we would maybe have one or two contracts, an R&D contract and a production contract. Pretty simple. One prime, a couple contracts.

Now with some of our programs there'll be a five-year program, but we'll probably have 20 contracts because I'm dealing with 10 or 15 different contractors in industry, which is literally what acquisition reform is telling us to do. Bring multiple bidders all the way through the process into the end game, into production.

Fantastic approach. We've been doing it already. Space Development Agency and SSC have done that in spades over the last few years. The SecWar acquisition memorandum essentially – you know, essentially, you know, tries to get down to a mandate road of that.

But that increases the workload on your program management teams, that increases the workload on your contracting teams, and so it's something we've really got to get after.

Ms. Mineiro:

I mean, I want to wrap in industry on this. I mean, you actually interact with all of that cadre, with all of those people to deliver these kinds of warfighting effects, and when you hear this how are you experiencing that not only in the past but now in foreshadowing, as the general said, you know, where that acquisition reform is going because Space Force has actually led in some of those areas and so you've seen that. I think there's more leadership that needs to be done.

But from an industry point of view how are you viewing the program management, the acquisition reform? How are you viewing that demand signal back that the department is sending you?

Ms. Sears:

Yeah, I'll make a few comments there.

First, I'm going to be very positive on the acquisition leaders that we're seeing in the Space Force because I think at no other time in my career have, I seen so many program managers and PEOs and leaders ready and willing to sit down and talk. The openness to understanding what drives cost and schedule, where the trades might be, the willingness to talk up front and really understand those things it has never been better.

But you can tell that they're stressed. You can tell that they're overworked. And then when you get into that contracting element that's really where I see the slowdown, the, hey, I've only got one playbook – I'm going to go follow the playbook, and we really start to lose sight of the mission objective and the ability to get something out of the system, a capability delivered.

But I truly believe we have an amazing Space Force acquisition community that's open to those kinds of things. We absolutely have to leverage that all the way through the process including the contracting element.

Mr. Bucci:

I guess I'd like to foot stomp two things that the general said, and some that Kay said.

First is it's been a tough year for the entire acquisition force across DOD, as the general mentioned, all of the different circumstances that are kind of driving some of that difficult year, and from an industry perspective our job as we move forward is working together, making sure we communicate, as Kay said, and figure out a way to get things back rolling and moving efficiently.

The other thing that the general mentioned is – and I'm sorry, I'm an engineer by training – so the Space Force was born with an initial condition of, I'll say, changing in contracting and acquisition strategy, and as a result they're ahead of the game compared to the rest of the Department of War.

And I think that's been very helpful because they've been able to leverage a lot of the lessons learned in the past and I think that's been helpful and, frankly, you know, working from the industry side we have learned with them on how to figure out what those right lessons learned are and what the right mechanisms are going forward.

Mr. Nicholson:

Yeah, I think I'll just add on to a lot of what people have said.

But starting macro, we've been talking about acquisition reform, and I've been in D.C. now 26 years – a 30-year career – and I don't – I can't think of a year where we hadn't talked about acquisition reform and I think, perhaps, the term is even antiquated.

I really applaud where we're headed. It's more of an acquisition evolution. The really good contract officers, especially with new entrants and small companies, look at us through a lens of partnership. So, you look at the old rubric of good, fast, and cheap. Our warfighters don't have time. This technology is extremely tough, so it's got to work, it's got to be developed quickly, and it's got to be cost effective.

And I'll remind everyone in the room that the U.S. government doesn't produce anything. They need us to do it. So, the best contracting officers are those that can form that partnership and we can have those conversations but that takes a lot of resourcing. It's very, very hard to do, and we're grateful for those who will take the time to look at a small company like ourselves or explore a partnership and see how that can be beneficial to the warfighter.

But I think the last point I would make there, when you look at that rubric, especially for new entrants that are capital limited, one of the things that we're very, very willing to do is to prove it. Contingent type operations are ways that I think we can move faster, we can prove the technology, and we can make it easier on the contracting officer, provided that we know that if we prove it that there's something at the end of that proverbial rainbow.

Ms. Mineiro: Yeah. I mean, I think what's interesting, and I love that you brought up this point of different kinds of actors, right – different kinds of businesses, and one of the things that is fascinating I think so frequently people just make this binary, like, industry.

Well, what the heck does industry actually mean? Also, you know, what the heck does, like, commercial actually mean? Like, this is more than just a philosophical discussion. It's a discussion that has real consequences, and one of the things that I hear frequently from people is, well, the government just needs to send a demand signal. They need to send a real demand signal.

And so, the question that I always have for industry is what kind of demand signal are you actually looking for? Are you looking for some strategic policy document? As a policy person – you know, as an authorizer, words matter.

As an appropriator, words don't matter. Like, let's go. Numbers, execution, right? Like, appropriators, they'd be closer to God. That's great. Public math, it's not my thing.

Mr. Nicholson: Ideas without funding are hallucinations, just to be clear. OK.

Ms. Mineiro: See? Right? This is – this is a good panel.

Mr. Nicholson: Let's be really clear about that. Sorry. An old appropriator. Thank you.

Ms. Mineiro: Right. So, at the end of the day, like, what kinds of demand signals are you looking for? Does that vary by the kind of business, whether you're doing more kind of as a service provision, you're doing hardware OEM, you're doing, you know, your pre-seed versus publicly traded.

Like, what kinds of demand signals is industry looking to receive from the government? Go ahead.

Mr. Bucci:

So, I guess I'll look at it – it depends on the type of industry partner that you're talking about, right? You know, we have three significantly different companies represented on this panel, right? Publicly traded, private, and burgeoning, I guess, is the best way to say it.

And I think it really does depend on that, right? What drives each of those companies to be part of this industry, to want to take part in being the evolution of the space as a warfighting domain.

From General Atomics perspective, our drive is technical innovation, right? Developing – so when you talk about what do we need from a demand signal, I guess there's two pieces, right? To your point, dollars are important, so a consistent demand signal so that I know what I'm working on now has a home in the future, and that will matter from a numbers perspective for capability but also from a programming and eventual revenue perspective.

So, I think it really does depend on the type of company that you're talking about as to what the real – so for us, it's – I'll call it a strategic demand signal and a tactical demand signal, right? The strategic is what do you really want from a technology perspective and what do you want from a tactical perspective in terms of the numbers, and that's what will drive us.

Ms. Sears

Yeah, I think that's exactly right. We use demand to invest and that is more of a, hey, what's the architecture, keeping us informed about the threat so we understand how our products and capabilities have to adapt over time, and that investment starts early so we need to understand that.

The other place we really use demand signal is in production capacity. So how many becomes important. How many can you produce, how many can we field, how many can we launch over a period of time, and what's the replenishment and sustainment strategy for that.

So, and that can also come from an architecture. That could be enough, but in a lot of cases we actually need to understand a lot more about some of the hard requirements. What is good enough? Is a class C system going to be good enough? How much redundancy are we going to need to put on the system? Is it a two-year satellite? Is it a 10-year satellite? Is it a 15-year satellite?

So, all those, I would say, kind of little R – some of those are little-R requirements. Those are very helpful as well because that really helps us understand how we have to lay out the line and the kinds of supply chain.

That would be another really, really important way that we use demand signal is to understand our supply chain, their readiness, what do they have to invest, and keep in mind that can go down two or three layers.

Ms. Mineiro: And it probably should go down two or three layers.

Ms. Sears: It needs to.

Ms. Mineiro: Yeah. Please.

Mr. Nicholson: But that requirement conversation is also shifting. I mean, we're getting the question what are you capable of. What are you capable of from a production point of view? What can your technology do?

I mean, the first real disruptor that – you know, and disruptor is overused but, I mean, think about unmanned systems. I was on Capitol Hill when that conversation was going on. This is dating myself. This is 2002. It took a different paradigm shift, and now today unmanned systems are, obviously, just a hallmark of all of our assets.

From our point of view, that conversation about requirements is shifting and they want to see what we're capable of and how quickly we can scale to do it. We have a lot of new entrants which are heavily capitalized. They are coming to the table and showing new capabilities, and that might change CONOPS a little bit, and that conversation shifts.

So, what I see is that it's a dynamic question. But I think the point I would leave everybody with is right now, today, on average it takes eight to 12 years to go from new idea to program of record. Eight to 12 years.

Do we have that kind of time? Of course we don't. I mean, where are we going to be? Where will all of us be in eight years from now, right? Where will our adversaries be in eight years?

So that requirements conversation is always coming with time and scale and cost.

Ms. Sears: Just can I –

Ms. Mineiro: Please.

Ms. Sears: One example that, and this was a – this is a more traditional system but the Evolved Strategic SATCOM, which Boeing was, you know, fortunate enough to win. Four years prior to that Space Systems Command did risk reduction.

That's a really powerful demand signal, right? That says we're going to pay you – and this was a group of contractors – to start reducing risk for a future system that we know we're going to need. We know it's going to be hard to build. And not only does that help make the operational system more successful but it sends a really strong signal to those companies if you invest here, you know, there is going to be something at the end of it.

Ms. Mineiro: Ben, I want to get deeper on demand signals for young tech startups that are doing – I mean, the thing that I love about ours is, like, you're doing the hard thing first, right? Like, people love space because it's, like, you know, sexy and you get to see things blow up on the way up. You know, it's great. (Laughter.)

But, like, you know, what I end up telling a bunch of, like, young, very enthusiastic companies is, like, it's still rocket science, like, and, you know, people are, like, well, we can't do that because it's classified. You know what's not classified? Physics. (Laughter.) Hard, but not classified.

So, like, what kinds of demand signals are young, emerging entrants looking for from places like the Space Force?

Mr. Nicholson: Well, pushing those bounds of physics. I mean, we talk about things. Kepler effect is very, very real, right? So, we have some really fearless engineers. There's no problem they won't tackle. I mean, you're right, the 12-year-old in all of us loves rockets, right, and we test every day. We just blew up a rocket just two days ago and it really blew up pretty good. Everyone's fine.

But that's the nature of testing. We learn so much from that and we are going from clean sheet design to test firing in 30 days. What we are seeing, to answer your question, is that how quickly we learn and advance from that, and what we're hearing from our government customers is, can we be there and watch that process, because then what happens through our iteration is then we start changing things to meet their demand signal and we actually iterate together.

So, we talk about partnership and what does public-private partnership look like. That's where it gets really exciting. We use a lot of additive manufacturing, 3-D printing, and what that is good for is complex geometries and going very, very fast to prototype. It's not the panacea for large scale but you can do a lot of things very quickly.

So, what I'm seeing in terms of our young engineers is they love it when they get in the room with our government customer and understand their problems. They say, what do we change in these things, and we get back on the test stand, and we do it again and again and again.

Where it gets tricky, though – and I just came from a meeting this morning with another customer, and it wasn't the Coast Guard, for the record, and they're asking us those questions but then in the same token, just as Kay was saying, well, how quickly can you scale? And that's a separate question. That's a capital question and that stresses us greatly.

So that's where the conversation has to evolve and if we have that demand signal then I can let our engineers go weapons free, right? They will go fearless, and they will go all-in because we will go in and bear that risk if we know that when we perform and we meet their needs we'll scale.

Maj. Gen. Purdy: I'm going to –

Ms. Mineiro: Please.

Maj. Gen. Purdy: – link the last question to this one. So, we talked about increasing the number of acquirers and increasing their training and the need for both. That is a good example why.

In the past we would do a requirements process and then we would issue an RFP and then we'd get the answers. Then we'd do a source selection and then we would sort of monitor the progress of how it's going. That's the traditional slow acquisitions.

That's not how we do most things anymore. There are still a few things that are still like that. More so what I've told our acquirers and our program management, I've told industry repeatedly out on the speaking circuit, is you have got to get out into industry, all of industry, every six months.

It's changing dynamically. Entire industry – public, private, everyone is changing dynamically. You cannot assume what you thought you knew six months ago, and to the point of where you've even got new companies just appearing out of nothing with amazing amounts of work because they've been cloaked the whole time.

And so we have to deploy acquirers out into industry more and more often just to run down all of the activity that's going on, and then you have to feed that information back up into the system and adjust the requirements process live to figure out, hey, we were doing this and we were doing this but there's 12 other options you might be able to do what you want and get even more and, by the way, you could probably get it faster and cheaper.

And then you have to go deploy the acquirers in different kinds of training to understand how to leverage that and take advantage of that. We've got a lot of our folks now understanding and learning about venture capital, about

interfacing with capital markets and things that we weren't trained to do a few years ago.

Those have manifested through SBIRs and STRATFIs and TACFIs into new types of relationships and new type of contracts that have allowed us to sort of explore all those avenues, and it's incredibly important to go down those paths and it's directly in line with the SecWar's direction on act reform, act evolving, as to what you do.

And we've been kind of practicing that over this last year and a half or so really in spades, basically building a new industrial base, new essential bidders that can compete for these programs. And I've mentioned it many times this year but RG-XX, the GSSAP replacement, was one example where we went out, saw what was going on, and then we went back to the Space Force, and the Space Force changed the requirements set and then we were able to issue a new direction.

And so, I think there is nothing but more of that coming down the pike, which is a different kind of skill set, a different kind of attitude, and requires a lot more personnel to kind of get after that.

Mr. Nicholson: Right, but think what that will do for speed to capability, right? That – see, do – ratio that, again, eight to 12 years which none of us have, and I'll do a quick example just to riff on what the general said.

Hypersonics, right? Hypersonics is a great answer. What's the question? It's the white whale. We've been chasing it for a long time. We've invested billions and we've kind of experimented with different technologies.

AFRL – one lab, two services – has been pushing us in all the same ways you just said, General, and they – we are now at a point six months after we started that is very different than from where we started by nature of the requirement, and I'll talk generically.

But we're talking about a storable, affordable, high-speed, hypersonic type capability to give infinite options to the warfighter. That's not the way it started, and that would have only been possible through that kind of partnership and through that type of visibility and to funding so that we know that we're taking calculated risks.

But also, performance-based. We have no problem with that. We have no fear of performance. That's the other thing about those brilliant engineers you mentioned. They have no fear of trying to perform and then getting it right.

Mr. Bucci: If I could add something.

General Saltzman mentioned in his comments this morning about a minimum capability. I think that kind of leads on to things like delivering something. You know, in a program I worked in the past we had an expression, build a little, test a little, learn a lot, you know, and that's kind of what you were talking about earlier, right?

And I think it's very important that the Space Force has and continues to have strategic patience as we go through that process. As we build something, it doesn't work as we expected it to, we have to learn from that and then build some more again. Or we build something at a smaller scale, learn from it, and then we can scale up, as the general said.

So, I think there's a bunch of different things that are already in motion and we've got to just keep moving that ball down the field to continue those and get them better.

Ms. Mineiro: You've got something to say? I see you.

Maj. Gen. Purdy: Yeah, I'm going to – I'm going to jump – I know you have questions, but I thought – so SecWar – so this is a really interesting point. So, there is a lot of movement that we want to do in sort of act reform, and the main underlying emphasis of SecWar's speech was, hey, we're at war. The systems at war. Act like we're at war, which I love that model.

And so, we're really set for some really interesting discussions because, OK, I can go ramp up the acquisition system, work with all the different companies, and I can pump out product. I can start low, and I can pump things out fast.

But we need to have a real discussion on the operator side and the requirements side because these aren't commercial entities. These are our warfighting systems and there's a joint warfighting force that has to produce guaranteed results.

And so, we – I'm very interested in the upcoming conversations not just in the balance of requirements and trades and whatnot and how all that works but what is the appetite for fast, rapid delivery of capability because that capability will not be the hundred percent capability. It probably won't even be the 80 percent. It might be the 40 percent. They might have issues. They might have some bugs. It might cause you to be down a little bit.

I'm kind of wondering, right? So, we have to balance that. I see both sides of the picture. I'm kind of 50/50 right now. Hey, I want to deliver as fast as possible but that's going to produce less capable systems, but we'll be able to rev faster. But there will be risks there. There will be operational risks there.

And there's not a good answer to that question yet so that's going to be a hot moment of debate here, going forward, over the next few months.

Mr. Nicholson: You know where it breaks down, though, is safety and performance. Safety can never be compromised, right? It's got to be sailor proof, soldier proof. It will never be Marine proof. But it has to be safe.

Ms. Mineiro: What about the Coasties, though? Only when activated? Yeah?

Mr. Nicholson: Coasties are the tip of the spear and then – I mean, don't get me started on that. (Laughter.)

But I think one of the things when we talk about systems good enough, we look at what if we were to look at our processes and we make sure it's a hundred percent safe as it needs to be but good enough from a performance point of view, and that's just one way to go faster.

Ms. Mineiro: Yeah. One of the things that you've talked about – I mean, and so I watched the – you know, rollout speech about the acquisition reform and I thought it was fine.

But I was actually, like, this all looks pretty familiar, right? Like, and I think it's because, you know, I'm so close to, I think, a bunch of the Space Force stuff that I was, like, I don't know, I think there's a lot of continuity there. I mean, I honestly think that they're taking a lot and just scaling it across the department, you know, with things like the integrated mission deltas and, you know, the way that you're working with commercial.

And you've kind of talked about a couple of those examples. Can you give us kind of examples – more examples of where the Space Force was, how it's kind of led acquisition reform specifically on the commercial side, and how you see that now kind of proliferating into the rest of the department?

Maj. Gen. Purdy: Sure. There's quite a lot there but just trying to rattle off a bunch of simple examples, we used to pretty much be the party of big proliferate – I'm sorry, big – well, General Hyten's quote, "big juicy targets," right? So –

Ms. Mineiro: He loves that quote. That's his favorite.

Maj. Gen. Purdy: Right, I love that – I do love that quote and it actually – it sort of embodies the problem. Hey, here's a billion-dollar satellite. We got, like, three of them. Or here's a two-billion (dollars) satellite. We have just a couple.

And so perfectly fine in a peacetime environment, not applicable at all in a warfighting environment. So, the construct of proliferation has been a big element. We talked about it for years and we finally started to move on with

that. We started in LEO, and then last year we found out as we were exploring RGPS we could – we were – we could head into MEO, and then with the RG-XX project we found out, well, then we could go into GEO.

Commercial industry was able to start producing buses at rates and payloads at rate in ways that we – it was unexpected. So, proliferation has been one major aspect, which is really an original Calvelli tenet of break apart the problem, get fast, rapid acquisitions out the door.

So, all of those elements you'll see in these acquisition form tenets. Other ones that are really interesting are multiple award winners. That's not something that we've really done and what I mean by that is we traditionally will award to a couple companies.

We'll do some down select for a period of time. Traditionally that's because we want to continue competition because the government's perspective is I need that competition to continue until the last possible moment, or usually when your money runs out, you'll pick one and then you go into production at that point.

We don't typically have end item production units from multiple different industry partners. That's how we're moving in the Space Force. Space Development Agency, that's just a matter of course how they've done it, and we've adopted that across many of our various systems – PTS and RGPS and RG-XX and a couple other ones.

And that's actually provided some really fantastic insights. Number one, I've got multiple companies. I can get after multiple technologies. I can get after multiple build paths. Number two, when we have a contractor that's having problems and starting to falter a little bit we have a solution path. We're able to cancel that contract or that system and move on.

Traditionally, when we cancel it, that would be a new source selection. I'd start all the way back to zero, and you start to do your paperwork all over again, and you start to develop a UAC strategy, and then you start to go through the process and then you've still got to do an RFP process and a source selection. You're guaranteed two years delay, and you could – and at the very beginning at least, two years delay.

In this case no delay at all. I continue moving along. We've done that multiple times over this last year and that is a key element and, additionally, as articulated in SecWar's documentation, it also touches on the industrial base. It feeds the industrial base, and we get out of this issue, particularly in space in the past where we had just one company that could do this mission and one company that could do this mission, and you were kind of stuck.

And so now we can kind of work on multiple aspects, look for different technologies, and sort of see who has got that capability to produce.

Ms. Sears: Can I – can I add to that, though, because there's an important element to the SDA model. And I don't disagree multiple contractors, all those benefits are great. It has to be a win-win, right? When you have multiple companies building out production facilities and you're going to award to them once and then maybe again three years from now, right, because they're still part of that group, what have they done with all of their people who worked on that production, right?

So this idea that you're going to have a bunch of contractors who are going to be producing at scale but they're not going to get consistent awards that's going to be a problem, and so you've got to look – we have to look at the SDA model and we have to say do we actually have a healthy industrial base with that model.

Mr. Bucci: It goes back to, you know, the demand signal at that point, right?

Ms. Sears: But they're sending the demand signal. It's just they – you don't know how it's going to be divided among all of those folks. And so, the company, whether you're talking about Tyvak or York, because those are real companies that have made investments with PE firms and capital and they're only getting an award once every – you know, maybe once every other year. How do they maintain their staffing?

And so big companies I could weather that, right? That's not what we're talking about. We're talking about all these new entrants that have to return money to their investors. So, it sounds like a great model.

I think we're still testing the model and figuring out if that model is actually going to produce strong new entrants that can sustain and can pay back their capital investment, sustain their workforce, and return to their investors because one of the things with that model that sometimes I think we forget is everybody wants their return, right?

My company, Boeing, we want a return on our investment. All those PE companies that are investing they want a return on their investment. It's just a different place where they want that return. So, we just – I just think we still have to – I don't – I'm not –

Maj. Gen. Purdy: No, no, I –

Ms. Sears: I'm not disparaging the SDA model. I just think we have to be sure that we are actually growing healthy startup companies that are going to be able to maintain their position in the new space economy.

Maj. Gen. Purdy: I think – yeah, agreed, and what you have to do is balance how much can they pick up on the commercial side or have we driven a government-only mission.

Ms. Sears: Right.

Maj. Gen. Purdy: And then you balance the opposite side of that, like, we're not – we shouldn't be doing corporate warfare where it's, like, hey, I have five contractors and I'm feeding them all constantly and they have no commercial business plan. That's not a good plan either.

Ms. Sears: Right.

Maj. Gen. Purdy: And so, working through, trying to – and that's why I'm a big fan of the SBIRs and STRATFIs, and we've used them so successfully trying to help seed our interest, show our interest. It was a reference that we made earlier. We show those interests through those SBIRs and STRATFIs. We get VC folks to come in and help follow the government lead and to help provide a path for those companies to get after some commercial profit lines, and then we can step in and leverage. Because we can't fund the R&D and the build of everybody and we're trying to get out of that world. So, the key is, is trying to collectively work together to find everybody on that commercial path and then the government can tap into that benefit.

Mr. Bucci: Sorry, Kay, I thought you were done. That's why I –

Ms. Sears: No, no. Please.

Mr. Bucci: Demand signal.

But I just want to kind of pile on, General, to what you said. Where I was going to go was from both sides, we need to look at an integrated demand signal. To the general's point, on the industry side I have demand from SDA for a certain thing, but I also have demand from commercial customers, perhaps, for a similar product.

So an integrated demand signal from the industry side is important to look at the entire marketplace so you can then answer your investors, and here's the payoff in the long term, et cetera, et cetera, and here's how I can build that, I'll say, a supply chain and industrial base that's more robust and keeps people going.

Mr. Nicholson: And I would violently agree with everything Kay said, especially as a new entrant that has to pay back our investors. Not shy of competition.

Understand that we have to give the customer the best result. I do like a contingent type arrangement so I look at it like this. I have two dials, and cash is great, right? Cash does a lot of things. I can invest. I can go fast.

That demand signal for production is where I can really get creative. That's where the magic happens, especially if I'm doing that collaboratively and that balances out risk. We talk about risk of a new entrant going all-in and then not winning. Then what happens to all of that investment?

So, this is just one way to manage that. And I think it's a very fair proposition when it comes to industry and –

Maj. Gen. Purdy: And I would argue, just as a quick response, I mean, that's what it appears that SecWar's, you know, reforms touching on. They want multiple winners in that end game to touch on the industrial base side of the house. They want to see and help the industrial base, which is a good change of viewpoint I think rather than, hey, we want a winner and that's it, and then everyone else just suffers.

So, I like that approach and I think that's healthy.

Ms. Mineiro: At this point, I am going to just solicit questions. We are going to move into a portion where we will take audience – moderated audience questions, so if you have them scan the thing. Do the thing. Words. If you put in binary, I can't read it so don't do it.

But a lot of good audience questions. Actually, let's just start with the supply chain one which we just kind of talked about. The buzzword on the street right now is scalability as well as agentic AI. Everybody says agentic AI, right? I know, right? Scalability.

For the Space Force for space capabilities that can be particularly challenging, where do you, each of you, kind of see the largest challenges in scalability and producibility for space architectures and how do you think we can address it?

Ms. Sears: So certainly, there are some real pinch points right now as we look at scalability with some space electronics, things like reaction wheels. I still think we have a long way to go on laser crosslinks and the ability for those to interoperate.

I mean, at the really basic level if we want to scale something and we go down and deep into our supply chain, it can take, you know, two to four years for those folks to really ramp up. So, we've got to start feeding second sources – again, back to the demand signal, feeding those second, third sources.

It's really when you get down to the mom-and-pop suppliers where you really have the scalability issues, the readiness issues. They don't have the capital investment, and to say that we don't have mom and pops in our supply chain is crazy. We absolutely do. They've been the backbone of our country for a long time. I don't think the answer to that is vertical integration. I really don't.

I think that's where we get a lot of innovation. But we have got to be able to scale those folks. So, it's really about staying in touch with the supply chain, understanding where the pinch points are, really sending a demand signal and developing some of those second sources.

And, actually, the Space Force has been open to tell us where you have those pinch points. We will go. We will talk to those suppliers. We'll maybe – and they have funded second source suppliers to get into – the way we did the laser crosslinks I think was a really good example of that.

So that's a real issue. It's going to be a constraint as we start to produce hundreds and thousands of certain things, and I think it's going to affect me in the same way it's going to affect Ben or anybody else.

So, we really have to understand the facts and data. Where do these guys sit? How much investment do they need? How much time do they need to scale? How many real suppliers do we have that can meet that challenge?

Mr. Bucci:

I think from a Space Force perspective, the other services are looking at industrial base vitalization, right? The Navy, from a shipbuilding perspective, is investing billions of dollars. The Army, from a munitions perspective, is investing billions of dollars to understand where the soft points are in the supply chains and how to build them so that they can scale, et cetera.

I think the Space Force has done that already in a couple of areas but as we look forward there may be more, as Kay said, of more strategic areas that we need to look at collectively for where can we do collective investment.

It doesn't have to be just Space Force investment. It can be industrial investment as well. I mean, the National Security Space Launch is an example of where I'll say that that long-term industrial base for that particular aspect has paid off significantly for everybody in terms of bringing the cost down of launch.

And so, we need to, as Kay said, kind of work through where are the key areas that we can then look to invest across to make a more robust industrial base.

Mr. Nicholson: And I'll say three points. I'd love to tell you all that I'm a hundred percent American made and I think I am. But how far do you go? When it comes to additive manufacturing, we print with these powders – where those powders are sourced and then the composition of that and then you just keep going and going and going. That's where AI actually has some application for that.

We want to give that assurance, of course. Then you look at things like small parts that aren't that sexy like solenoid valves and there's no one that will tell you that valves are not a limiting factor when it comes to space. We make these valves and people say, oh, you've got valves. You had me at valves. And valves are not that sexy but, boy, they're necessary and we just cannot make enough of them fast enough.

One solution I see – and Kay and I talked about this briefly – when you talk about partnerships this is where a lot of magic can happen between small and large companies. We've had great conversations with the Boeing Company about some opportunities where we do partner together and maybe – I mean, let's face it, the Boeing Company can build anything and build it well.

Their supply chain lens is completely different than ours, but the combination is one way to solve some hard problems.

Maj. Gen. Purdy: Just from the government side to kind of wrap it up, just a couple thoughts.

One, I strongly believe that the supply chain is a domain of war. We don't think of it as that, but I absolutely believe it. And when you see the infiltrations and the active thinking of that, you know, 10 nodes down, I think we should have a hundred percent knowledge of our supply chain to the dirt. And that is a computer tracking info problem that with modern tech we should be able to handle, honestly, so that we can have complete understanding, and it's a shared resource between industry and the government.

So, domain of war, absolutely, and we're trying. I'm trying to kind of set up limited aspects of kind of an ops center construct, trying to ask ourselves what does that look like, how do we get after that. There are many companies out there that do supply chain surveillance, and we've tapped into those for good use.

The other one is interesting. You mentioned not a fan of vertical. You really have two – like, when I go out there and see the different companies I see two different kinds of models. One's kind of an integrator model, one's kind of a vertical integration model, and I'm struck by the vertical integration types who have decided to just, hey, if something's going to take too long

we're going to do it ourselves and, you know, they do the make or break, you know, aspects, which is all good.

And they're really interesting to watch that and it's always fascinating to talk to companies why they've decided to do one or the other. But it is interesting because I do wonder, as we track supply chain issues – and I've got supply chain parts in different acquisition programs – we spend all this time and energy tracking various supply chains but it's very, very hard to go track the vertical integration supply chain. They're building it themselves. There's actually a resource there that's untapped. Sometimes those verticals, those companies, decide to go ahead and sell as an OEM some of those pieces.

And so, there's something there that I think we need to tap into that none of us have really been able to kind of get our arms around.

Ms. Sears: And I didn't mean to imply I'm not a fan. I do think – listen, during COVID I think we all wish we were vertically integrated. (Laughter.) But – and we're looking at make-buy very differently now because of COVID. It taught us a lot.

But I don't think the answer to every system is a vertically integrated system because a lot of our key performance comes from companies that are singularly focused on some very important technology.

Ms. Mineiro: We've got a couple of questions here about allies – allies and partners, allies not only in the context of supply chain but also in the context of the broader industrial base signals, how we're looking either to partner or compete.

I mean, this was a significant part of Secretary Hegseth's discussion as well – how is the Space Force and Space Force acquisition going to be impacted by FMS reform, by, you know, movements of DSCA, DTSA, things like this. And, you know, this is an interesting area where in the commercial market there's a lot of international investment as well.

Maj. Gen. Purdy: I am excited about all of the FMS discussions, international allies discussions, in the acquisition reform, particularly about FMS reform. I've stated a couple times this year and other senior leaders have stated our FMS process is near abysmal. It's just way too slow and we are losing out to international industry.

Ms. Mineiro: FMS means foreign military sales.

Maj. Gen. Purdy: Foreign military sales, and we have documented evidence of that and that's bad. And so, FMS was developed in a different time and place and serves a good, strong function OF kind of a protectorate and it's a multi-year activity – 24 months at least – to go through this process.

We have got to a point, I would argue, that, hey, if we want to have a deal and we think we know what we want to do, a couple of weeks we're done and we're off and running. And so, I am looking forward to the reform activities and I've kind of made my position known within the system and we're absolutely willing to volunteer.

On the Space Force side, it's an interesting story. We don't typically do FMS. That's not typically been our history, with a couple caveats. We've always done these GPS terminals. For decades we've done that activity, and now we have about 80 different FMS projects and activities working mostly through Space Systems Command all at the lower level and they're all kind of working through the system.

Some of them are activated and we're actually starting to do the actual product, and now we've got – I would call them a bunch of small fish all swimming. It's really amazing. But then it's additional manpower problems trying to get your arms around it and make this thing happen.

We have I would call the massive beast coming down where we've got multiple FMS projects on the docket at the multi-billion-dollar levels with multiple countries and they're all about to hit at about the same time. I'm very, very excited about that to start working with our allies to help our operational side. It brings additional operational capability, which is exciting. It helps pretty much everybody.

But that is a huge workload that's coming down the pike both from a manpower perspective – just go do it – but then also processes and procedures and activities. So that's also – we've got a – I've got a – I've dedicated a few people in my office just to go handle this full time with SAF-IA, which is the international shop in the Department of Air Force working with ANS and these new processes.

So very much looking forward to it. A lot of work ahead of us.

Ms. Mineiro: Yeah. As a former SAF-IAer I appreciate that.

I was also while at SAF-IA a foreign disclosure officer. This is a testament to the fact that I am apparently an emotional masochist, you know, working on the Hill and being a foreign disclosure, right?

Maj. Gen. Purdy: Foreign disclosure is quite the – yes, ma'am. Yes, ma'am.

Ms. Mineiro: It is – it's fun.

Look, we have probably about five minutes left. I'm going to do just rabid quick fire for you guys just to close us out.

I think there's been a tremendous amount of progress that has been made. I think, you know, the acquisition professionals that I have worked with in the Space Force have been amazing. I mean, good people but also highly motivated, punching above their weight level.

I think that I've at least experienced people at almost all levels that are willing to take risk and have a little gumption. I mean, I tell my kids frequently, like, 99 percent of life is how you're going to react to the word no and, like, not accepting that as an answer and moving forward is fascinating.

But what can we do better? What can the Space Force do better? What does it need to do better to deliver these joint capabilities?

Maj. Gen. Purdy: I frame this kind of question in four bins: requirements, acquisition process and culture, operational acceptance, and tests. I've really got those backwards. Tests and then operational acceptance.

We in the acquisition community own the acquisition process culture straight up, right? That's in my job jar. But requirements, tests and operations is in the Space Force side. We've actually done reasonably well. I gave an example earlier, a couple examples of requirements.

We haven't gotten work done yet on tests and operational acceptance. Those center around risk and operational risk, and I hinted to those earlier. That's where we got to focus on.

Ms. Mineiro: Ok.

Kay?

Ms. Sears: I also – and I said it in the very beginning, I'm incredibly encouraged with what I see. It's going to have to be a partnership, and I just believe the most important gift that industry can give to General Purdy and others is our lessons learned, our knowledge about what we know and have experienced over decades of building capability and deploying capability.

What drives cost? What drives schedule? What is performance? If we can get together at the table and talk openly and honestly, we can design things that can be delivered fast.

Mr. Bucci: I think we've talked a lot about demand signal and things like that. I think one of the things we need to work on is the ever-evolving rules of engagement from a Space Force perspective because with the swipe of a pen somebody could change a relevant technology into a completely irrelevant technology or approach.

And I think, you know, again, government and industry can work on that problem to understand, you know, when ROEs may change or may not change so that we can better tackle the overall problems supporting Space Force.

Mr. Nicholson: Yeah. I mean, I think we're doing it, and it needs to improve, and that is this relationship we talked about with the government customer. I mean, newsflash for everybody and please write this down, space is expensive. The capital-intensive nature of this business is such that if we make a wrong step we are screwed.

I cannot afford to do that. I cannot afford to misstep as a new entrant. So the general and I talked about that relationship of having people upstream as we iterate. I'd like to see more of that, and then I'll just add what we can improve on is keep following through.

One of the worst things that happens we have these great engagements. Awesome. We had this person, this person knows what we're doing, and then I just don't hear from them again for six months and they disappear, and I'm chasing them and then I have to hound them and then I have to think about how to text them and this and that. That's wasting time and resources. So, making those relationships real and, frankly, fruitful for everyone involved.

Maj. Gen. Purdy: Just to follow up on that. The final point I'd make is, like, we live and die based on our acquisitional workforce and so you see those activities when we're undermanned and they're just overworked, right? So, they're just, like, I meet with you, meet with you, meet with you and I'll talk to you six months later when I have two minutes of downtime.

So, the right number of people well trained so that we can go execute all of these things that we got on the docket is a real issue here.

Mr. Nicholson: Yeah. I mean, I want to say one more thing.

When I was a very young person 30 years ago one of the best things I heard in Washington is the desk is a dangerous place to view the world, so your point about get out in the wild for the people in the room that's another thing you can write down. Space is expensive. Get out and see the world. A couple things we –

Maj. Gen. Purdy: Amen.

Ms. Mineiro: Awesome. Well, thank you so much for participating in this panel. This was – I think we had exactly the right people. If I offended you my name is Kari Bingen. (Laughter.)

But in all honesty, I mean, this is one of those issues that I think, you know, is not super sexy but is in all honesty the crux of why the Space Force was compelled into existence and I think that the forward movement that this acquisition core, small and mighty as it is, is, quite frankly, also being proliferated across the entire department, and I think that that's worthy and I think that that's good.

And I think that there's still a heck more to do to keep it that way, to keep it healthy, to keep it not hollow, and to make it successful for the benefit of delivering warfighter capabilities for the entire joint force.

If you will humor me and thank the panel, I will get off the stage. (Applause.)

(END.)