Commercial Space Integration

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Maj. Gen. Roger Teague, USAF (Ret.):

Well, good morning everybody. It's great to be here. Thank you all for coming to what we anticipate is going to be a great discussion with regard to commercial space, commercial space integration, the challenges and opportunities that we face. And as you start to think about great power competition, it's important that I think we collectively look and examine all of our national capabilities and what we might be able to collectively bring to the fight. And commercial space is no exception. It has a lot of capabilities that it's ready to offer today. Our job, our collective job is to figure out how to do that and how to do it effectively and efficiently. I'm pleased to be joined by our fellow panelists that I'll introduce in a moment, but I wanted to first offer a couple of points that might help shape the conversation. First is the rapidly changing landscape.

It's no secret. Obviously commercial space market has grown exponentially over the last couple of decades, and it really influences how we think about space and about what the future is going to look like. It's no longer a province for sovereign governments alone. We really have to think about how we're going to interact with commercial systems and capabilities. But most importantly and what this panel is going to discuss is how we can leverage those space capabilities. And then that really leads me to point number two, and that is really the opportunity that we see for collaboration and synergy. And it's very, very important that we start to think about how we can best collaborate and leverage and create synergistic effects through both government purpose systems as well as the commercial capabilities that might be able to brought to the bear, where ultimately those systems can be fielded in a manner that helps complement, augment, and supplement and ultimately enhance resiliency across all of our space systems.

Finally, there's a little bit of a discussion and an idea with regard to the role that innovation will play. Commercial capabilities can offer a tremendous amount of innovative power. They work at a completely different time and scale and speed and bring tremendous capability very, very rapidly through rapid refresh and technology cycles. But it's important and it has to be balanced by the challenges of those opportunities and that the integration of it can sometimes be challenging, whether or not you're talking security, cyber hardening, ultimately systems integration, all of these represent challenges that must be overcome if we're going to be able to integrate commercial systems effectively.

So with that, let's get into it. First I'd like to introduce our panelists. To my left is Colonel Richard Kniseley. Rich is the director of the Commercial Space Systems Office at Los Angeles Air Force Base Space Systems Center. Becky Cudzilo, she is the senior engineering fellow at Astroscale. To my right is Dr. John Springmann, who's a senior vice president at Tomorrow.io. And finally, Mr. Dan Jablonsky, former CEO and president and current board member of Maxar Technologies. Panelists, welcome. With that, Rich, could you kind of get us started with your opening remarks please?

Col. Richard A. Kniseley:

Absolutely...

Maj. Gen. Roger Teague, USAF (Ret.):

You're good.

Col. Richard A. Kniseley:

Is this on? Awesome. So General Teague, thank you for moderating today's panel and thank you AFA for welcoming us all today. It's especially great to be back in Colorado. Back at home I saw a bunch of Colorado state cadets around, so go CSU. Just want to start with kind of a history lesson. The messaging and the enthusiasm that have been revolving around great power competition at this event has just been refreshing and it's been very exciting. But when we stood up Space Systems Command back in 2021, Secretary Kendall asked us to re-look at that organization and optimize how we do things, and to start looking at... Number one, start looking at producing and delivering mission capabilities, not just systems. So we are here to deliver an overall effect for the war fighter. So when we stood up Space Systems Command, we formed five PEOs at that time, one for Space Sensing, one for Assured Access To Space, one for MilCon PNT, one for SDA & Combat Power, and one for BMC3. And actually since then we have stood up a sixth PEO for Organized Training & Testing Infrastructure.

And we pushed that decision making all the way down, but when we also stood that up, we started a mantra of, "Exploit what you have, buy what you can, and build only what you must." Knowing that in order to tap into the innovation that you were talking about, sir, and to focus on what we truly felt we need to build in-house, we need start looking at the commercial market and also start utilizing our capabilities in different ways than we normally intention. For instance, utilizing SBR satellites to help the U.S. Forest Department and to find hotspots for firefighters. But what we also did was we started a commercial space office, and that was actually kicked off in 2022 under the Commercial Services Office. And now we rebranded as the Commercial Space Office because we're after more than just services, we're after the components, we're after the capabilities, and we're looking at what industry has to bear so that we can deliver that quickly and effectively to the war fighter and then also not wait for the 100% solution, get what we can out there fast, and then utilize the innovation that industry has and do that a lot through the contracts that we set up.

So we also don't feel like we need to own every single contract to be successful. We've established a number of partnerships out there in the ecosphere with the NRO, with the NGA, with DIU, with AFRL. And SpaceWERX is also aligned with my organization to figure out the quickest way to get things on contract, to utilize each other's funding where we can and to also kind of pave that valley of death that a lot of companies are just scared about. To really start moving things past a Direct-to-Phase II and start looking at some TACFIs and STRATFIs, and then we're working with the PEOs to start thinking about Program of Record. We have to start looking at things as an overall space enterprise because I think now we're at that point where military and commercial, the lines are getting kind of blurred there and we need to start thinking about it as overall capability, overall effect in delivering that to the war fighter.

And the last thing that I'll mention is, and I think, sir, we'll probably talk about it on the panel, is the Commercial Augmentation Space Reserve. It's been talked about on a few different panels, but we are moving forward with proceeding with that framework. It is a voluntary framework where companies will be put on contract to provide a peacetime level of capability. And kind of echoing some of the talking points that we've heard this week, we have to do it now. We can't wait for a conflict because we have to get that capability out there, you have to do the proper integration, you have to war game it. And then the operators need to know what this capability is used for and how to operate with it. Because like I said, it will be an overall enterprise because if you try to introduce this during a conflict, it'll just sit there on the shelf.

So that's really the foundation of CASR, which is going to be managed mostly through the contract, pre-price negotiated tables on how we're going to scale that capability from peace time all the way through the spectrum of conflict. But also when you sign on to be a CASR member, you are signing on in the event of a national war or a national emergency to prioritize your capabilities for U.S. government use,

or mostly for U.S. government use, but also allowing the ability for us to potentially say, "Don't serve that customer over there who may or may not be a pacing challenge." But I look forward to answering more questions for you.

Maj. Gen. Roger Teague, USAF (Ret.):

Thanks, Rich. That was great stuff. A lot of interesting tidbits there that we'll be able to get into. Becky, please.

Becky Cudzilo:

So Astroscale is a on-orbit servicing company. We do things like inspection, life extension services, debris removal, and our latest is a refueler for the Space Mobility and Logistics Office run by Colonel Bulson. We are a new entrant to the U.S. government. We have done work for other countries and for mainly commercial operators providing services on orbit. Our vision is to provide development of safe and sustainable space for future generations, all the Airmen sitting out here. So we focus mainly on things that are good to advance space activities, but also make sure that we don't provide more to the clutter, add more debris. We provide new capabilities. We have a roadmap that takes us out many years to figure out how we can provide services to the government. Like I said, our latest one is refueling. We'll be building a demonstration in the next couple of years, and then that will become more of a service that we can offer to all our commercial customers.

Maj. Gen. Roger Teague, USAF (Ret.):

Thank you very much. John, please.

John Springmann:

Yeah, thanks. Hey, I'm John Springmann. I run our space program at Tomorrow.io. So Tomorrow.io, overall, we're a weather intelligence company and what that means is rather than providing weather forecast to our customers, we provide actionable instructions on what to do based on the weather. So there's tremendous use cases. A simple one would be for NFL stadiums when you open and close your roof, all the way through planning, like flight planning and planning OCONUS operations. To do that, we need to have really strong weather forecasts of course, and really accurate all over the world where we're serving. So that relies on good weather models, but as importantly, good weather observations. And that's where our space program comes in. We're launching a large number of weather monitoring satellites to collect unique weather observations around the world to really enable much better weather forecasts and that downstream weather intelligence.

Now, of course, it's truly dual-use. One of the keys for this audience is we want to enable... Provide much better information for your mission planning. So for the war fighters to have more information as they plan and execute their operations. Through our SaaS offering, we provide this weather intelligence already to a few groups within the military. There's a couple of aviation squadrons within the Navy, and we just started an evaluation within a Marine Corps piece of infrastructure. And then the satellite data itself, we do provide to groups that are capable of using it. So weather modeling centers such as Air Force Weather. We launched our first two precipitation radar satellites last year and have provided some of that data already. And we're going to be launching about 25 satellites here in the coming couple of years. And thanks for having me.

Maj. Gen. Roger Teague, USAF (Ret.):

That's terrific. Thanks, John. Dan, please.

Dan Jablonsky:

Thanks, Roger. And thanks to AFA for having us today. I think this is a very important set of topics as we think about, as the Colonel mentioned, the larger space enterprise and how commercial and industry fit into what that picture looks like. Maxar build spacecraft, fly spacecraft, takes data from spacecraft, works with massive amounts of data, hundreds plus petabytes, runs artificial intelligence across it, and really ultimately tries to help the war fighter get to solutions to hard tracking problems very quickly. If you're a Guardian or an Airman and you've got a CAC card, you can get access to millions of square kilometers of data every day through the global GD system. All you got to do is log in and get trained up. You can get billions of archive data of the entire planet just with that CAC card. So those systems are up and running.

They run on classified and unclassified environments. Depending on what you do, where you work, you can get access to all of that kind of commercial data. And we've been doing that for over two decades now. As we think about that bigger enterprise, bigger fight piece of the equation here, I think that the most important thing that I think about when I reflect on this is not just the augmentation, but the integration and the architectural decisions that are being made in terms of those commercial capabilities. Because when you start to think about not just near-peer, but full on peer and great power competition sets, we need all of those resources. We need the capital going into the development, the technology, and the industrialization of those space capabilities, and we can't do it alone.

Maj. Gen. Roger Teague, USAF (Ret.):

Very good. Thanks, Dan. Terrific. Let's get into some of the questions a little bit more. Colonel Kniseley, in your remarks, you mentioned that the government has been after and trying to successfully integrate commercial for several years now, and it's frankly had various kind of a mixed report card with regard to varying degrees of success and being able to do so.

I'd like to talk a little bit about, and would appreciate the perspective of our industry panelists, are there barriers to entry? Are there impediments, real or perceived? Financial policy, regulatory? All of these are real issues that I know that as commercial providers you've dealt with as you've come on here. And then as well, I think that there's an important discussion to be had about the financial implications as part of a commercial integration process and that the commercial world operates at a different financial stopwatch than the government does.

It's a little more paced. And while we can feel capabilities much faster, the government sometimes has trouble financially keeping up, and it creates a unique set of problems.

So I'll get into it maybe with three different questions. First, those barriers to entry, are they real or perceived? And what are some of those? And then secondly, what are the implications to capital formation, particularly for small and mid-size companies?

Dan, you've got a lot of experience here. As you've grown Maxar, you were front and center on a lot of important and tough decisions as that enterprise grew.

And then finally, Rich, I would appreciate your perspective. Does the government have a responsibility? You talked about the valley of death, it's real. As a former commercial provider, I can tell you. I mean though the challenges are real, does the government have a responsibility to help fund and identify promising technologies early and help make sure that they're going to get across that valley of death and that they will be core contributors to a government architecture? Becky, if you don't mind, let's start with you.

Becky Cudzilo:

Sure. So we're a midsize company, and the government does love their SBIRs. So we don't qualify because we are too big. So we have to go find somebody else, a small company that has maybe an innovative technology that we can use to prime this. We end up being kind of the prime behind the scenes because most small companies don't have that capability. So the whole OTA effort, Other Transaction Authority, has opened up things, at least from our side. We're not a big prime, so we can't compete with the Lockheeds, the Northrops, the people like that. But being able to go after Other Transactional Authority through SpEC in particular, has proved to be really useful because we can actually put forth the fact that we're a non-traditional prime. We can leverage off of that and actually use it to fund things that we want to do anyway but maybe the commercial market is not ready for, that demand signal in commercial is not there, but we've heard it from the government at the conferences and stuff where they talk about things like that and they're starting to put their money where their mouth is, which is really kind of nice, at least for our perspective, as to how to go forth with that.

So that's kind of a little financial and policy thrown together. There are differences in the way the government does policy versus the commercial restrictions. So we have to deal with the FCC, the FAA, various regulatory authorities, get licenses, things like that, that the government can't go around or do without. Trying to bridge that gap makes it a little harder. So I don't mean to monopolize, I'd like to hear what Dan has to say also from that perspective.

Maj. Gen. Roger Teague, USAF (Ret.):

Dan, you're on.

Dan Jablonsky:

Well, thanks. So I always say when I'm meeting with government customers or policy makers, two axioms. If you want more of something, incentivize it. If you want less of something, tax it or regulate it. And so whatever level of burden or regulation you put on the companies, you're going to have less of them. It'll be harder for them to go out and raise capital, it'll be harder for them to go out and get other people to put money into a venture to go out and do something that the government might like you to do. And we can't be Pollyannaish about this, space is expensive. We've brought the cost curve way down. There's a wealth of companies out there. We're doing amazing things.

But when you go out and you want to say, "Hey, I want to put stuff into space," and they look at you and they say, "Well, what's my rate of return on that? How am I going to get paid back for the capital I'm putting into you, whether I do it through equity or debt or venture funding?" And you have to say, "Okay, here's my business plan. I'm going to do this commercially. I'm going to do this with government customers." And they say, "What's the timeline? What's your resiliency in that timeline? How are you going to build that out?" And so the more predictable the government can get, the more... Not just signals, but information it can give to the marketplace about what its timelines look like, what its budgets look like. And every time in Congress there's a holdup on any type of a budget legislation passing, that slows everybody down. It slows industry down, it slows the development of technology down.

So shameless plug for Congress getting the budget passed here hopefully soon, but it's a really fun and hard set of problems to solve. And there's a renaissance happening. Among these companies, they're partnering, they're working together. The more the government lets us into what that looks like, classified and unclassified environments, brings us into those architectural decisions, industry will evolve around that and make the smart bets that it thinks it can make to generate a return and develop those critical technologies for the war fighter.

Maj. Gen. Roger Teague, USAF (Ret.):

Exactly. Very good. John, please.

John Springmann:

Yeah, I think there's been a lot of improvements over the last, I think, kind of five years in particular actually, opportunities for commercial companies to engage with the government. STRATFI and TACFI I think are great examples. We're a recipient of a STRATFI. It's providing some partial funding for our first few satellites that I mentioned. And what I've seen on the regulations and licensure, it's eased a little bit as well. My background is in the earth observation side as opposed to the communication side. But on the earth observation side, you're seeing companies that are being authorized to take much higher resolution images and different spectral bands, et cetera, than has ever been done before. So that's all good.

I think one of the keys is really understanding what the commercial incentives are, which is ultimately revenue, and that commercial companies are accountable to their board and to their investors. So if you think of kind of a spectrum between purely commercial, we kind of do what we want aside from government requirements on one end of the spectrum, the other end of the spectrum is we work from government requirements only. Ideally, you need to meet kind of in the middle, and I think this dual-use can't be underemphasized because if it ends up being... If you're a commercial company and 80% of your revenue is from the government, you're not necessarily a commercial company or not commercially viable.

So I think it's really key to help enable commercial viability. And is that the government's responsibility? Not for me to decide, but I think really it's a win-win, right? To enable this innovative industry and to acknowledge that many of the commercial outlooks on these huge markets for observation really haven't come to fruition commercially. They're growing of course, but again, when you look at the revenues, they're fairly small on the commercial side compared to government funding. But I'm really optimistic that weather... I'm a little bit biased of course, but I'm optimistic that we can crack that nut a little bit with how dual-use weather is, right? It impacts everyone. And so if we can serve that up properly and usefully to both the commercial and the military user side, I think it'll hopefully be a very interesting success story that we can leverage.

Maj. Gen. Roger Teague, USAF (Ret.):

Fantastic. Yeah. Great stuff, great stuff. Colonel Kniseley, I know that there's not necessarily a direct investment model here, but at the same time I think there's been several great initiatives, whether it's been through DIU, SpaceWERX, AFWERX, a number of SBR awards, a number of great initiatives, trying to help sort the wheat through the chaff and to be able to understand what the most promising capabilities and technologies are. Is that the process that you foresee and being able to help understand and help some of these companies get their critical capabilities implemented more rapidly?

Col. Richard A. Kniseley:

So a couple of things that were just said here, and I resonate with a lot of those. Number one, over-classification and not having the visibility into our requirements, I would definitely say that that's something that's a challenge that I've put on my team that we need to really crack the nut and figure out the best model to get these companies more clearances, or at least have visibility into the requirements because it seems like it's this chicken and the egg round-robin of, "Well, I can't get a clearance until I get a contract." Well, I don't know what your requirement is, so how am I going to get awarded a contract? So I've been talking with a lot of different groups, DARPA being one of them, that I

think there's going to be a process that we can partner with to figure out some mechanism, whether it be through Arcata or something, so that we can at least get a couple of clearances off to these companies so that they would be more promising towards some of these other missionaries. Kind of going back to what I was saying, sir, about that line being drawn.

And now I also want to mention over prescriptive requirements because what I've been learning a lot through industry and in the short time I've been in this job, I've learned with industry, just basically tell them your problem and let them come up with a solution. So we've been kind of redoing the model on how we do industry days through COMSO and also Space Systems Command, where we've been introducing what we call more reverse industry days where we'll have the traditional stuff upfront, the government will give the briefing, talk about the mission area, where we're going, but before that industry day happens, we'll usually release a vignette or a problem statement and offer companies one-on-one time to kind of say, "Okay, here's how we would go after this."

And then that way, we can rope in technology and innovation and that helps us kind of craft out what that acquisition strategy would be. But going back to the question you also asked, sir, is it part of our job to keep these companies going? It's kind of a two-pronged approach there. So obviously we have a force design, we have requirements, we know the amount of capability that we need. And we need to go after the companies and the capabilities that are going to help us and the war fighter and to get to, "Yes," and to accomplish our goals and everything. But back to that speed component, we have to find ways to on-ramp companies faster, we need to find ways to leverage innovation faster because the longer we wait and we stay more with that build... Obviously, you all have a profit to make. Okay, now you're starting to look overseas and everything. And what we want to do is make sure that we harness that capability at home.

We've done a great job through launch space domain awareness, commercial SATCOM, and General Saltzman was mentioning some of the successes that we've had with surveillance, reconnaissance and tracking. And this is all being done with commercial capabilities and data, but there are so many other ways that commercial can help us to prosecute what we need against a pacing challenge, whether being one of them, sir, like an alternate PNT constellation or capability.

When you're talking about dual-use, we found a number of different companies that can utilize their capabilities to provide a PNT capability. And what I would ask everybody in the crowd, through our Front Door website, we've been posting when these industry days are going to be, some of them are even going to talk about CASR, but you're going to have ones coming up. We just completed a great one on space mobility last month down in Orlando. You're going to see ones on weather coming up and also SDA as well as SATCOM coming forward. So we're trying to get out to industry and vocalize where our needs are.

Maj. Gen. Roger Teague, USAF (Ret.):

Yeah, very good. John, did you want to add to that?

John Springmann:

Yeah, I think too on the regulatory or policy side, like I said, I think the bar has come down a lot. I think going forward, it's not about just lowering the bar, it's about proactively helping commercial companies cross the line and cross that bar, which it sounds like is very much happening with some of the programs you're referring to. So I'm excited about that. But ultimately, these commercial companies, they need to be successful one way or the other, and that's going to be with U.S. investment or go find customers elsewhere. So again, we just need to set up these win-win scenarios.

Col. Richard A. Kniseley:

One thing I did want to mention when we're talking about financial incentives, so having... Well, realigning the commercial space office and bringing SpaceWERX underneath, now we're aligning SpaceWERX challenges to some of our industry days. So last year we tried it with an alt PNT. We have released the solicitation and those should be awarded in the upcoming year, but we were able to, with SpaceWERX, set aside, I believe it was over $30 million. And so we have the industry day, we understand where industry is, we developed some of our problem areas and then we're able to fund industry through Direct-to-Phase IIs. And then so we're able to see how some of those progress. We're also working with SpaceWERX in certain areas to waive the $1.9 million limit, and in certain ways we're able to get up to $10 million. So think about with $10 million, you're doing more than just software and paper, now you're able to bend metal. And so we're really trying to bridge that valley that we were talking about.

Maj. Gen. Roger Teague, USAF (Ret.):

Terrific. Thanks, Rich. Shifting gears, Colonel Kniseley, you talked and you set the table a little bit with regard to CASR, the Commercial Augmentation Space Reserve, that concept that helps bring in capability when we need it, should crises arrive or worldwide situations demand that, and the need to have it ever ready that it be exercised and ready to employ at any one particular period of time. Unique among our panelists, Dan, I think you've got a lot of experience here, particularly in the ISR business and having dealt with this.

How do you balance commercial interests against DoD requirements? When you start hearing about CASR and potentially being a participant of CASR, how do you balance your commercial interests against the government requirements? And then maybe secondly and a little provocatively, would you expect... As a commercial provider, you're now entering a different realm. You've got a target painted on you. Do you expect that DoD will defend your assets, and/or is that part of your calculus as... When you consider that, "I'm going to introduce my assets into the fray here," that you may suffer losses?

Dan Jablonsky:

Two very good themes there, Roger. On the first one, let me take them in a reverse order I think. When Maxar satellites were providing a lot of information and data about the Ukraine War, Russia made statements about what it might do to commercial satellites, and it did it about us, it did it about SpaceX and did it about other providers. I thought it was very, very important that John Kirby walked out to the podium outside the White House and made a very clear statement that said, "We will respond in kind to attacks on U.S. commercial assets." He didn't mince any words, he didn't say exactly what we would do, but he set a very clear policy marker down to say, "You can't just go blow U.S. stuff up. You just can't touch our satellites, our airlines, our other stuff. That's uncool. We're going to respond to that kind of thing."

So I think that it's very important that the U.S. sets the policy guidelines about how it thinks about its industries, its commercial opportunities. Something in space is there in space, something on the ground... There are Lockheed Martin factories in Texas that we don't expect anybody to bomb without it being an act of war kind of thing. The second thing I think about that is that it's been very helpful and important to... The government has taken big steps really fast in the Commercial Integration Cell at Vandenberg Air Force Base and other places where they share data with industry.

And on the classified and unclassified side, that's really important because as former executive, a board member, someone that manages someone else's investments, we have a fiduciary duty to do the right things for those investments. You wouldn't want to wake up someday and think that the investments

that you made, that the executives were making bad decisions about where you put pension money, your kids' money, your college tuition funds, the firefighters' and police unions returns.

We have fiduciary responsibilities to that money, so we have to take into consideration someone that says, "Hey, we're going to blow up those assets if you do these things." And so that's just whether the policy decisions go one way or another there, it's an important consideration that companies have to take into account. Now, on the CASR, the ability to, let's call it buy on the spot market for what a commercial service might be, I think it's an incredibly hard thing to get right. I think it's wonderful that we're doing it because I think that it can be an augmentation. It can be just like with the civilian airlines, the maritime industry and others, it can be a force multiplier four times of combat, but it's really hard to figure out the economic incentives and how much extra capacity you'll have and where that extra capacity comes from.

Some examples where it hasn't worked well that you should turn your brightest and best minds to these case studies are things like the natural gas markets. States have said, "You know what? It's okay. There's a natural gas market. We'll just buy on the spot market when we need a little bit more power." And it invariably turns out disastrously because the spot market spikes and somebody on the wrong side of that equation comes out either losing a lot of money or not getting what they need. So I think it's a worthwhile undertaking. I would just encourage the teams to really think vibrantly about how complicated influencing markets, setting up a future augmentation that might be five years from now might look like and what pricing looks like and availability. Because if it's bought out and it's under contract, it may not be available.

Maj. Gen. Roger Teague, USAF (Ret.):

Yep. Exactly. Terrific. Thank you. Becky, you have some thoughts here as well?

Becky Cudzilo:

Yeah, sorry, I have some thoughts here too.

Maj. Gen. Roger Teague, USAF (Ret.):

I know you do.

Becky Cudzilo:

Because at the Schriever Wargames, this came up about as we're playing through the different scenarios that the operators very clearly wanted to use commercial assets, and many of the commercial people there in the cell said, "Wait a minute, you don't have a contract. You don't have anything in place to use my asset. You don't have... And what about indemnity? What happens if I get shot at?" And it brought up all those very valuable questions that need to be answered, that need to be addressed in whatever you move forward with on CASR. Because there are some commercial providers who probably are not going to be willing to subject their assets. Maybe they're too critical, maybe they only have one to a possibility that they would lose their entire company for maybe not a replacement amount.

So that is something that has to be discussed and at least made very clear to each commercial provider that signs up to CASR as to what actually would happen in a crisis versus something maybe regional, but just the clear lines of responsibility and delineation of what you're expected to do as a commercial provider versus what you're not expected to do. And can you say, "No..." We provide transportation services also, can we say no if you ask us to go move something out of the way of something that we know might be shot at? What is our liability and our responsibility too?

Maj. Gen. Roger Teague, USAF (Ret.):

Thank you.

Dan Jablonsky:

I had just one more thought on that. And trust is a really essential element to setting these up because you could write hundreds and hundreds of pages of contracts and clauses and everything like that, what you really need though is you need to get to the nub of the issue and you have to have a high degree of trust between the industry participants and the government officials about what that's eventually going to look like. And when I made my trips back to DC and when I spent time with the policymakers and the heads of agencies, it was very important that we had that sort of trusted relationship about... We had an understanding, I guess.

Maj. Gen. Roger Teague, USAF (Ret.):

Yeah. Yeah, a great point. And it's a great segue, Dan.

Col. Richard A. Kniseley:

Sorry, could I...

Maj. Gen. Roger Teague, USAF (Ret.):

Yeah, I know that you and General Garrant have been working very hard on all these issues.

Col. Richard A. Kniseley:

So a couple of things back to what you said, sir. Two things actually. So one, there's not going to be one CASR model to rule them all. I think CASR is going to be tailored by the mission area. Even the H-clauses that we put in that kind of spell out what CASR is, I think that those might be even modified by the provider through negotiations as well. So I want to be pretty clear that we don't think we're going to set up one model and it's like, "Okay, you as a SAML provider, weather and imagery," that that would be how this will be run. This is going to be an open dialogue between the government and industry. And that would probably bring me to my second point. As we develop some of these things, we are going to continue to have those industry engagements with you all.

I think we've been pretty transparent so far. Number of industry engagements, face-to-face contact. I think my email's floating around everywhere, and I don't mind talking to anybody that has questions, but we're going to be pretty transparent because we do want to have that dialogue because this isn't, "Government shall do all." And coming back to where you were going, ma'am, so you're exactly right. The Defense Production Act, if we're not on contract or anything like that, we can't automatically just take your capability or anything. That has to be negotiated. And that's one reason why I want to get after this quickly and to get those contracts to have that discussion going forward and everything.

Maj. Gen. Roger Teague, USAF (Ret.):

Terrific. Great job. Well, we've reached the end of our session, but I want to offer our panelists the chance for any closing remarks. Becky, I'll start with you.

Becky Cudzilo:

I guess I just wanted to say thank you. This is our first time at AFA and this has been a wonderful conference to go. I've learned a lot about what's going on in the military. I've been able to relate it to

things that we're doing because of the recent contract we won, the level of collaboration and the amount of openness between the SML group under Colonel Bulson and us has just been amazing. So I guess I just wanted to shout out there that we're seeing that speed start to really pick up, and we appreciate it. And thank you for having me, and thank you for all the panelists here too.

Maj. Gen. Roger Teague, USAF (Ret.):

Thank you so much.

Becky Cudzilo:

Thank you. So it's been great conversation.

Maj. Gen. Roger Teague, USAF (Ret.):

John?

John Springmann:

Sure. I think I just want to echo some of Daniel's and Becky's comments around... It requires very much a methodical approach on balancing commercial and government and really just being mindful of the incentives, but it's a problem that we can certainly solve by collaborating, working together and building that trust. Within Tomorrow.io, we're very excited about the government engagements and the traction that we have so far. Like I said, we have a number of government users happy to elaborate more on those outside of the panel, but excited to hopefully enable, like I said, the war fighters to make more informed decisions with our weather data and our weather satellites.

Maj. Gen. Roger Teague, USAF (Ret.):

Thanks, John. Dan?

Dan Jablonsky:

Well, it's an honor and a privilege to be able to serve the war fighter and the policy makers that have to wrestle with these really hard decisions and be out at the point end of the spear. Just huge kudos and thanks to the Air and Space Force Association for bringing together this kind of forum where we can hash out ideas like this to pose the hard questions and then to go wrestle with them and to bring the interconnected touch points for people to get together. Thank you. Great conference.

Maj. Gen. Roger Teague, USAF (Ret.):

Thank you, Dan. Colonel Kniseley, the last word is yours.

Col. Richard A. Kniseley:

So I think some of you have heard me say before, space is, it's interesting. There is no dividing lines in space. It is governments operating together, industry, academia, there's just no dividing line. And you all are, when you're developing your capabilities, you're operating over the AOR right now, and many of you are actually supporting the war fighter. So I know when someone asks me or says to me, "Thank you for your service," it makes me very proud, but you all are supporting the war fighter as well. So thank you for what you do. And through the Commercial Space Office, believe me, my team is... We are a bunch of believers in everything, and we need to move faster and facilitate getting these capabilities out there. But thank you, sir, for moderating. Thank you for the panel and thank you for AFA for hosting us.

Maj. Gen. Roger Teague, USAF (Ret.):

Thank you. Thank you all very much. Ladies and gentlemen, will you please join me in a round of applause for our panelists. It's been a great session today. We really enjoyed being here. Thank you very much.