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Addressing Today's Threat & Ensuring Tomorrow's Edge: Accelerating Capabilities for the DoD
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Gordon Lubold
Right, everybody, good morning. Great Aspen morning. This is a quick turn. So we're going to try to keep not very short but concise. We're here to talk about getting innovation to into the field in the hands of the warfighter faster. It's a perennial question. It's a perennial topic of discussion. I was tempted to ask like, why are we still here talking about it and ask everybody to kind of respond, but I think that we don't have enough time to kind of get too wordy. I think generally, it's safe to say that the the the speed and the acceleration the acceleration of innovation into into the field is unacceptable to almost everybody except for either the Chinese or the Russians. And so with that I wanted you guys know who panelist Heidi Shyu and Chris Brose. And Doug beck. Talking to us, you can look at their bios to kind of get a little more where they're coming from. But I wanted to just introduce, I mean I wanted to just kind of jump into it with you Heidi i was going to read you something that you testified about last year real quick. This was you last year on the hill. as seen in Ukraine novel commercial technologies paired with conventional weapons can change the nature of conflict the department's processes ranging from programming through experimentation through collaboration should be updated to reflect the dynamic landscape of today and anticipate the needs of tomorrow. Our nation's private sector is our competitive advantage. And we must focus on improving how the government and private sector work together. Ukraine offers a lot of lessons. We can talk about ait quick . But I wondered if you could just kind of update us and tell us what you from where you sit and what you're doing to achieve that goal.

Heidi Shyu
Great question. So let me give you a broad picture.

Gordon Lubold
One other thing is like I'm going to kind of hold you to very short answers because we want to get the questions hopefully in the audience later. So I'm just going to kind of be

Heidi Shyu
Real quick. Real quick. So what I'm primarily focused on is the joint mission. That means we're working very, very closely with the Joint Staff, which is focused on the joint warfighting concepts.

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They have laid out the joint warfighting concept, the way that we will Fight in a highly contested conflict. We've taken the joint warfighting conflict and really decompose it to the capabilities we will need to fulfill. We engage with all the services, the combatant commanders, target audience mainly started going all the way to the traditional defense contractor to the small company, the non traditional, the National Laboratory, defense laboratory, all of them engage with all of them. Because innovation does not come from one place our normal innovation comes across across the US. And in addition, we're collaborating very closely with our closest allies and partners because they too have innovations on the area area that we are going to leverage because we are in this joint fight together. And they are very well aligned to where we're going. So I can explain a little bit more when you give me more time.

Gordon Lubold
You get an A for concision there. Chris I pulled an extra value book Chris's you will probably know three years ago wrote a book of major claim to this audience for sure. The Kill Chain in the book you there's like a sliver of an example for you when you compare hardware and software updates to the military systems and ultimately to its low rate on those updates. And how for all of us carrying iPhones and alike. You know, imagine your iPhone not updating for three years and that's what's happening inside the Pentagon. Can you give us a sense of how you see that issue now today and where it is where it should be over?

Christian Brose
Yeah, thank you Gordon. It took me to say it's such a pleasure. Kind of we're probably gonna complain about the US government for a bit to be able to engage with two people that are genuinely doing you know, as much as anyone make a difference on this problem. And I do think it's worth taking a step back and kind of, you know, in response to your question, saying, What is the problem, right, because a lot of times it does get framed the failure to innovate or lack of innovations, and it mentioned innovations happening all over the policy. The problem is so little that innovation actually move to material disruption, large scale change on timeline that matters. And I think a lot of times the blame for that kind of gets directed at the acquisition system and the reality of the problem is much bigger than that, right? It's this entire process by which the government sort of thinks about what it needs for the future and goes out to get it. Nobody one thought that an iPhone was possible, right? It was a surprise to you. Maybe if you'd asked me 15 years ago, you know, what are your requirements for a mobile device? Today, I'd be sitting here with the most amazing flip phone that America could produce. And this is the problem in a microcosm. That we have in government, which is, you know, you have phenomenal swell meaning people who are trying to predict the future on timelines that are almost impossible to see at a time where the threat is evolving and technology is changing at the rate that it is. And that process exists to build destroyers and long range bombers and things that not many companies can build that we're not

going to build very many of that the government has to really drive research. And the problem is how do you how do you create an alternative process for all of the different kinds of capabilities like how do you ensure that Heidi mentioned that we're making such a difference in Ukraine that have almost the inverse attributes? of the military that we have large quantities of smaller, smarter, more autonomous systems, software that brings all of that together? And how do you create an incentive where we can be surprised where we aren't going to get requirements right where we can't predict the future? That is, I think the main challenge here is that we have a very, very statist bureaucratic centralized planning process to be able to plan for the future. And we need to move to an alternative pathway and that's built around capitalism and market creation for a different kind of classic capability that we're going to meet a lot more of, if we wanted to dirt shine on kinds of timelines, as to why you know it's talking about last night.

Gordon Lubold
I'd like to I'd like to dig deeper on that when let me give Doug a chance here. So Doug's new, relatively new to di two months, two months in to DIU. Friends of mine know that I always complained that they dropped the X but I think they should have stayed experimental. But that's just my little thing. We can talk about actually done by some time we've done by the universe last night. Quickly, your predecessor testified about how this was last year, DOD needs to ditch its requirements process for commercial technologies, and replace it with what he called a rapid validation of needs. His argument is that the DoD doesn't need to spend years developing existing technologies. Do you want to like talk quickly about how you got to where you are right now? That's not your life story, but and then try to get where we are on that issue now.

Douglas A. Beck
Sure so first of all, thank you, Gordon, and thanks. It's great to be up here with my teammate. And my teammate. So first, I guess maybe just to turn around the question that you didn't ask us a little bit about why we're still after talking about this because I think it's a little bit related to why I'm here talking about this, which is a combination of really the imperative and the opportunity. And the imperative is something we've been talking about already. Since last night and all through the day. We simply must find a way to harness the capability of our commercial tech innovation, which is really one of the birth rights of us here as Americans as well as our partners around the world in order to meet the challenges represented by China as well as the other critical challenges we have around the world. We're just not going to do it otherwise in the timeframe that we need to and frankly, one of the reasons we're slow to up here is because we haven't solved it yet. And that kind of brings me to the opportunity. Which which is that the the sense of shared purpose and trust that we have right now to get after This is fundamentally different. So although it's true that we're, we're still up here talking about this, who we is is actually pretty different. So when I first started companies meetings, I was kind of the only guy from Silicon Valley who was coming to these

meetings where it felt like that, and, and now I'm looking at who's here, right? I mean, look who was on the last panel, look at all the people in the audience's you Look whose names are up on the board. It gets fundamentally different and also look at at the same time the conversation that we're having inside the department is that the level of tech fluency that we've seen already from familiar so so we're fundamentally different place on that dimension, where we we have a commercial tech sector that gets it at least in large part in important ways. We have departments with the sector and who gets it and I'll come back to that in a second. We have partners across the interagency in the White House, we get it without Congress who gets it. So that provides us I believe, with a tipping point to make a difference and that's kind of why I've set my apple cart as I spent 13 years at Apple worked for Tim and so to speak. And you know what, I spent 26 years in simultaneously in part of it in uniform in the Navy and bringing those things together is sort of better. So to your point, can I quickly answer that sort of overhead? Okay, so, really, the simplest way to think about is if you think about phase one of DIU I was part of helping stand up versus a civilian visor, and then as a reservist in DIU X back the and get internet at the time. Back then the really it was just about building a bridge kind of at all between the department and the tech sector. And the metric then was if we had a meeting who even come from either side of the Simi Valley, and we're obviously we're lightyears past that now. So step two, then was about proving that you can take a real military problem the kind that Mike Brown was talking about any commercially available or tailorable technology, bringing those things together To create a solution. And rapidly US authorities, unique authorities or not that unique authorities to rapidly prototype that and get available to the warfighter. And we now have done that maybe many times backwards, you know, delivering value or replacing Ukraine. The challenge now is about taking that capability that we built and applying it to our most strategic needs. scaling, scaling. So it's about focus, speed and scale. And, and that's a that's a lot harder. Because it's it's not about starting kind of make the tech out. It's about most as Heidi was saying, most critical operational capability gap back and then making sure we're solving those problems and then we're doing the work with the rest of our partners across department co comm services partners and OSD to get that skill to happen. making that happen is what this next phase of DIU is all about. And that's why the Secretary elevated it to be a direct department. And that's why I'm honored to come and try to be part of the team.

Gordon Lubold
Right, thanks. Thanks for all his answers. I want to go back to Ukraine. quickly try to get kind of specific answers as best as possible is like what have from where each of you sit, what have you learned from Ukraine. You see these cheap technologies wreaking havoc on the battlefield. Seems like the Pentagon is still focused on big platforms that take years to build. I think the army may have like, set out solicitation recently for a certain kind of drone two years, you know, year and a half into this fight. What is Ukraine teaching you guys and what's what's tangible things are producing out of it. Year and a half after the war, started?

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Heidi Shyu
So, okay, so absolutely. We're taking the lessons learned from Ukraine. And we are incorporating that into our strategy in the next highly contested fight. Okay, one of the things that we have been doing, which we don't talk too much publicly, is incorporating those lists in terms of what we need to drive in terms of the technology and how we can leverage the commercial side. And one of the key things that we're doing is a rapid defense experimentation reserve, but we we're acronym heavy so we call it RDER. Okay, so, R D E R, what we've done there is, we planned our specific scenario, that set def chose. So the scenario of interest from that scenario interest, we worked with very closely with joint staff and combatant commander see what are the capability that's needed to fight that particular scenario. We then looked at what are the companies out there that designing delivery capability already at the prototype stage we can experiment to so what we have done is contacted every single service every single combatant commander and we held an industry date which 500 people attended and provided just white paper. This is what our product is. We selected those in the May timeframe. We test we we leverage the National Guard to literally conduct a week long experimentation and we provide a feedback to the small companies. Hey This is really great but this is kind of fragile. Can you hurt him does so somebody drops it and doesn't break? Okay, so simple things to provide feedback to small company

Gordon Lubold
If I can interject the process you described sounds like something I've heard the kinds of things you hear when you hang around places like Pentagon, which sounds like it could be a very iterative process than yours. What is depending on doing, you know, next week or next, you know, month.

Heidi Shyu
let me finish okay. So the experiment what we've learned here literally is going to all the equipment is going to a northern edge exercise. Okay, from that exercises fault we're teeing up. Here's our success story. Here's what has worked really well. Okay, that one tee up so the decision maker every single service with joint staff, and all the combatant commander will say, Okay, here's the list of stuff that's worked really well. How do we rapidly accelerate Fielding? That's the key part to get into procurement. I've already worked very closely with my counterpart that to build a plan who's acquisition sustainment, he has developed a number of rapid acceleration processes. So once we identify here's the list of stuff that we want to accelerate into fuel the we have the mechanism in place and processes in place. I can tell you it's very funny story. Give me one second, okay. There's one prototyping, which one of the marine tested out is it this is fantastic. I actually need to this. I'm going to deploy. I'm coming up to my deployment so he wouldn't give us back the prototype. He literally took it, the deployed with it. So that tells me that's great. There's a demand signal for the product. Right.

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Gordon Lubold
Good. Speaking of bill, Bill, the plan famously referred to the tech bros not doing enough for Ukraine. Chris, you're you're a tech bro. Yes, we just like we trained or do we just certified over the heart of this talk. I noticed your company's doing a lot with Ukraine talk about that issue.

Christian Brose
Yes, it's funny on Dr. The plants comment I saw him after he made that immediately started apologizing. Oh, I didn't mean I was like, just stop. You're right. It's all about production. Right? If you're doing small scale things, you're not making an impact at the level that we need to do. So whether it's you know, an old capability that we need a lot more of, or a brand new capability that we need a lot more of the highest point it is all about how do you get into production? To your question about Ukraine I think to me, I mean tons of lessons but three standout right off the bat. One we tend to talk about the future of war is this thing that is going to happen to us that we have time to get ready for and that's I think Ukraine is just laying that bare. This technology is here. We're not talking about photon torpedo cloaking devices that need to be developed. We're talking about things that are literally on the battlefield now that need to get developed and fielded in other areas. I think secondly, with respect to that process, the things that you're going to feel they're not going to work initially. Drones are going to fall out of the sky, the loitering munitions are not going to go where you want them to. So it's less about the capability. It's more of the Agile process that you have, excuse me, working directly with the end user to improve those capabilities in what is a very dynamic environment where you and the adversary are engaged in this move countermine type of process and you have to stay continually one step ahead. And the only way to do that is tightly coupled with the end user. And that's definitely been our experience in Ukraine. But the third thing I'll say is I think the bad news, you know, coming out of the word Ukraine is the power projection is really hard. In the teeth of a well armed and ready defender. power projection is really tough. And I think that is that is a tough lesson for the United States military to hear because we have largely built our force around power projection. The good news is that if you do the right things power projection could be hard. For everyone. So when you talk about a Taiwan Straits type of contingency, the only thing harder than having to defend against it is probably doing it. So if you actually make your, you know your partner, ready and equipped with the right kinds of capabilities that are not necessarily going to be you know, nuclear submarines and other things are going to look more like the kinds of capabilities that are making a difference in Ukraine, smart weapons, large quantities of fires network together, are you actually can create that deterrent effect in the mind to the adversary. This is just a problem that I do not want to pick off today. And we buy time and we push that future risk into the future rather than having it continue to creep left the way that it has been doing and now we're looking at 2027 as the potential data we need to be reckoned with. Well, what No, we are right. Getting ready for 2027 does not starting 2027. Right, right. It basically means that

anything that we do this year and next year is what we will be sending our men and women into harm's way with God forbid they have to engage in that contingency. So there is a sense of urgency about getting to scale now in the decisions that we have now have a transcendent importance.

Gordon Lubold
I can throw something to answer quick, whatever you want to

Douglas A. Beck
Iw as just gonna maybe try. Although I guess I don't have time, so maybe I can't get back into . So be quick but I want to be quick. So three, three quick things that we've learned that are great and one not yet. One is the value is just absolutely clear from commercial technology. We're seeing that all over the place everything from commercial space, whether it's in collections or our analysis in the cloud to a secure comps in across different flavors of network where the analysts have been destroyed to crowdsourcing of target and everything else. So that's great, and it's demonstrating that impact is demonstrating they can have leverage to make a real difference. Second, the ability to move to to share those things with partners and move very, very quickly. And there are two things there one is move quickly, just straight off the bat where there are places where for example, diu and help to prototype some of these things that are really easy to go move fast. That's great. And also the fact that frankly, because these are commercial technologies, it's it's a lot easier to get them in the hands of partners than things that may have already come from the record in fact, Chris and team and had have had to deal with the fact that some some stuff that they've done is become a broken record and master little procedural things to get it shareable where it's something that's that's more quickly tailored off the shelf can always be faster. So but that's that's great news, as well as the speed. There's also just the UI UX and some of this makes it sort of a training instead of months is weeks or days. But third thing that we've learned is about embedding our folks with with the in this case we calm in order to solve those problems quickly and help to shape this, what the needs are and what the imagined problem is not the requirement because the requirements once you get there, you're in the wrong place. Um, so those are all great, but things that we haven't done in chrysalis we hadn't heard still how to scale that was what he was getting at as well do it quickly. That's what we're focused on now. And we need that scale, though, so we can get our strategic impact on the problem but also, frankly, without that scale, the economics don't work for the people who are doing this. So at the same time that we put we're putting a lot torque of our military sales and more traditional capabilities up there orders and orders and orders of magnitude more dollars leading to that happening. It's happening first of all, we need to start to correct that.

Gordon Lubold
To your point about commercial I think Heidi 14 critical technologies you've identified 8% of them are commercial or the commercial. Eric real at US Central Command has done this kind of creating

these task forces, one for water, one for air and soon Wonderland. I wondered just briefly if you could say if this is a model for commanders, that works, what doesn't I don't want to overstate its effectiveness but it's gotten a lot of like Buzz because it's you know, cool and off the shelf stuff. underwater drones aerodromes does that model work? And then back to the scaling. How do you scale not only for his region, but for a much more massive region?

Douglas A. Beck
Can I jump on that one? Sure. Okay, so So first of all, I think the answer is yes and. And because this was 5999 These are great examples to be able to get stuff out there and start making it real. And you know, the Navy is now up to 100 unmanned vessels out doing real work making real things happen. And that's, that's great. You can see exactly the point which is taking this to scale, which is we're going to go next now, the Navy and I'll say this as the guy is you know is this is an area where the Navy is going from not only being the fastest to being one of the fastest and think about ways to do this. And so that was announced by CNO and section otoro in April about now leveraging fourth fleet to do this at scale for maritime domain awareness, leveraging AI and sensors in order to make that happen. That's a great example of beginning to scale these things and we got to go a lot faster and a lot bigger in terms of Event Scale really means in order to get to solving the problem that we're talking about and, and critically to starting with flying wheel spinning and demonstration. It makes it easier for the investment to start all the way from beginning from these questions here from something we haven't really talked about a lot today. But I know it's important that a lot of the people who are from the world I just came from who are here today in order to make that happen and when it scales.

Gordon Lubold
Do does the acquisition bureaucracy what is the extent of the acquisition your accuracies problem when it comes to this like what's wrong with acquisition? So if you rhetorical questions posed but like Chris, you want to just like talk to Greg about how they get in the way because that's the criticism.

Christian Brose
Again, the acquisition system and your accuracy comes in for a tough play, and they deserve their fair share. I guess the point that I would just want to really kind of impress upon you is the acquisition system is but one part of this broader system that the United States government and allied governments use to think about the future plan for the future, and go buy things that they're going to need, like spend money today to get things tomorrow? That is our problem, right? Particularly in the world of defense where like, I can't go out in a commercial market. And like see what people like how do I get market feedback when I'm not hopefully engaged in wars all over the place? Right. So it is a genuinely hard problem. I think the process and system that we have in place

to do it is a relatively cold war. That frankly, looks more like China at its worst in America at its best. And I think what we need is you're never going to have capitalism for aircraft carriers, right? You're gonna have one company that builds them, you're gonna do the best you can to get performance in the absence of competition, which you desperately need for the kinds of things we're talking about here where you're not gonna go by loitering munitions off the shelf, but like boy, you can feel them by the 1000s If you put your mind to it in a three to five year process. Those are the kinds of things like a completely alternative pathway of how do I go by capabilities, they're going to make a difference. Now, knowing that I'm probably going to get my requirements wrong at the outset and somewhere along the way, something better is going to come along and I'm gonna have to switch.

Gordon Lubold
I think that's what krill is example show just like, try and fail, fail, fail again, and then tweak it.

Christian Brose
Again. I think this is back to the this was a systemic problem of the DoD general Corolla, Admiral Aquilino. They own mission problems. But they do not own the ability to deliver solutions to solve their proxies. Right, that is the behest of military services, other parts of the department that do the organized training and equipment. So you have a supply and demand problem. The question we're talking about is how you adjudicate supply and demand. He is trying to generate demand, but if the rest of the institution doesn't ride to the rescue and say, this works, you have three, we're going to get you 1000. And it's all theater. And I think that's the problem that we've had recently is that much of this innovation has been theater. It's been the appearance of reality without delivering real capability. On the kind of skill that's going to matter. Ukraine has been sort of a pickup game. I think we've learned an enormous amount of lessons that Heidi and Doug are harvesting to try to solve this problem and future but like to be very clear, we are not where we need to be and we are running out of time to get this right.

Gordon Lubold
Yeah, yes. I want to try to get one question in from you guys. You guys probably ask some better questions than me, but let's get it going. I have one other question. Apparently two minutes. Okay.

Heidi Shyu
One of the things that we're doing even though it's not that much money at last year I had $100 million procurement money in which literally we could help small companies that has delivered prototype that the services want, but because it's a two year budgeting cycle, once you know so, so serious and want you to demonstrate capability first before they want to buy once you demonstrate the capability then they will basically put in their budget request but it's a two year budget cycle. So companies have to sit there wait for tools or thumb for two years. Okay. So what we did is literally

go to all the services to understand what needs that they have. We look at the small company, what product they produce. And literally we met with all the services to rack and stack. How we put the 100 million dollar so 10 companies received just $10 million each, but I can tell you some of the small companies got to $10 million and they were able to push for integrating the underwater mind sensor be able to detect underwater mind that's incredibly important. And they're pretty on to it underwater vehicle unmanned underwater vehicle. So we helped to accelerate delivery by two years. So that was that pot of money. In this year. We had $150 million, I was able to give 11 company so it's hard to scale about a billion I can pull them through low rate initial production a lot quicker, right? With a limited amount of money. That's all you can do.

Christian Brose
Can I say one thing here and briefly. This is why I think it's so important if you see what the Congress is doing right now in terms of appropriating up to a billion dollars for Doug to do exactly what we're talking about here in terms of from initial prototype to more to be held feeling like getting over that valuable.

Gordon Lubold
Just with deference to our view of why it's here. Can I just get one question time for one question, which were right at zero. So maybe saying very short no speeches

Audience question
Thank you so much. My name is Major Reno I teach at the US Air Force Academy. So my question for all of you is what are the specific policy or regulatory things that you would have right now? Through better means actually get to scale and actually get to the end parts of work? What are what would you change right now?

Heidi Shyu
So say first of all, not every single prototype is going to make it into production, because we depend upon the services until What's your need, they have a finite budget and they have to allocate their needs. So they will go through his racking stack and say, Okay, these are really important. This is what I truly want to pull through quickly. Okay, so we have to go through this process right now, which is called the defense Management Action Group, the mag on annual basis in which every service go through their portfolio to talk about, here's what we want to put our budget against. Okay, so,

Christian Brose
very briefly, and I'm not being flippant, I actually think we're like wildly overthinking this problem. So I think for a lot of the types of capabilities that we're talking about the Defense Department, the US

government, just needs to buy them. It needs to actually be a better buyer, bringing it's sort of an optimistic power to bear to say loitering munitions are large, autonomous undersea vehicles or drones, if that is what is important. I'm going to buy them in large quantities. And I'm not going to like buy one for forever and operate and maintain it for 20 years. I'm going to buy these capabilities in a more rapid way. So that you can actually begin to create the incentive structure for companies to get to scale. And for new companies to see a pathway to break into a market that is very impenetrable. That's what we don't do right now. That's to my point about market creation, like how do we get capitalism back into defense? You're only going to get it in certain places, but boy can you if the government is actually using its power as a buyer to bind the kinds of capabilities that we're saying are important. And tomorrow, that's probably going to be different. So these are not 20 year programs of record. They have to be large scale lots, but then get, you know, kind of replaced over time.

Douglas A. Beck
So first, I would just say amen to everything that Chris just said. And I'm going to take the and I do think a lot of is just about getting about getting out of your own way using the capabilities that you've got and just doing it with 1.2. I'm going to take the what we would ask for one not slightly different. I do think we need to make it easier for incredible dueling capability to do for the talent to move in and out of the bar. And that's something I think would be great for us to figure out how to do and I'll maybe just leave us with the thought that something I reiterating something I said before, which is I really do believe that we are at a tipping point now both because the shared sense of purpose and trust around trying to solve this problem is in place of either at least never seen it. And second because we have to and so I'm I'm excited about getting after it.

Gordon Lubold
Thanks so much. I hear the notion of orchestra music playing. Join me in thanking our panelists for the talk and I'm sure we'll be back next year to talk more.