

Virtual CRT: David and Goliath - Pebbles and a Slingshot - Brilliant (Transcript)

[Riki Ellison]

Good afternoon, ladies and gentlemen, from a great summer day here in Alexandria, Virginia. I don't think many places in the world can have days like this, here. It's beautiful. I'm Riki Ellison. I'm the founder and chairman of the Missile Defense Advocacy Alliance. We're about 20 years old. Our whole sole mission, sole purpose is to make the world and our nation safer through the advocacy, deployment, and evolution of missile defense. This is our 76th congressional roundtable that we've done this type of group discussion on vital subjects. And this one is one of the great ones, David and Goliath and the pebbles and the slingshot.

Absolute brilliance that we saw last Sunday. It was probably, well, I don't say probably, it was audacious. It was brilliant. It was a blitz. So it's a blitz package that may be one of the best ever in the history of missile defense. We say that because a lot of the planes that were hit were fueled and ready to fly with cruise missiles on it to make an attack on Ukraine that day. So the ability to understand that, get the data to know that, and then to be able to process that data and get the data to the effectors, which were the drones, and to be able to have a very limited amount. I think there were 20 to 40 per truck, per base that they attacked. And with a class one, lightweight, very inexpensive, probably \$1,000, \$1,200 with a payload of maybe a kilo, a kilo and a half, two to four pounds of explosive.

To be able to take out these planes that were preparing to go strike, that is left of launch. That is part of missile defense. That is taking out the threat before it even gets going on that. I think that was a tremendous movement. With that also comes the ability to counter the strike that's going to happen next, which Ukraine has done very successfully. I think the Russians are flying over 400 cruise missiles, ballistic missiles, drones at them, and they've defeated a good percent, probably 90% of that.

That's part of the whole movement to have that right of launch and left of launch, and the data that supports that. And if you step back, you can look at that as the centerpiece of a golden dome type architecture, where the C2 is such a critical aspect. To be able to hit it before launch and hit it after launch was a great example of that. I think it also shattered cost curve attrition. The cost of the drones, probably 100,000 total, maybe a little bit more, and the damage put on it, estimated at 7 billion. That is a tremendous statement on deterrence, on having missile defense capability.

So, we're very fortunate today to have a great discussion and different perspectives. We have speakers. Three of our four speakers have been in Ukraine or in Ukraine recently over the last couple of months. And we have an Army Special Forces expert, a little bit, in it, and the Army. We have a Navy representative. We have the Air Force representative. And we have a Ukraine representative. So, I think you'd be able to get a bunch of different perspectives in this discussion. But this is a discussion, too, on can we or how do we defend against something like this, if an opponent would do a similar tactic to us?

Because it makes—I think the world now looks at this and sees pretty vulnerable to this kind of type of attack. So, I think that discussion will carry on forward with that. So, I am excited to start the discussion. And Alexey Boyarsky, he is unable—he's close to the border in Ukraine, working right now with their government on planning. So, he could not—he pulled out at the last minute. And so, I have reached out to one of my close friends, another Ukrainian expert at this.

He also represented us or represented himself at the Poland conference last month with us in Poland and also in London last December. His name is Konstantin Tymonkin, and he's been involved with the war effort all the way back to 2014 in Ukraine. He is a Ukrainian citizen and very knowledgeable about this. So, I want to kick it off Welcome, KT. Konstantin, the floor is yours.

[Konstantin Tymonkin]

Hi Riki. Pleasure to be here. Well, just as a quick intro for basically why this happened and why it was important. First of all, Ukraine inherited actually about a hundred of strategic bombers from the Soviet Union. Part of them were given to Russia. The largest—the biggest part of them were cut as part of the Ukrainian denuclearization effort, as part of the agreement that Ukraine had with the United States, Britain, and Russia on getting rid of nuclear weapons, as well as methods and assets related to delivery of nuclear weapons. And obviously, we ended up in a situation where one of the guarantors of our freedom and safety started using these same methods of delivery against Ukraine to deliver cruise missiles and ballistic missiles.

And just to give some numbers, between May 17th, which is the first Istanbul meeting where the two presidents were supposed to meet, and Ukraine was fully prepared for an unconditional ceasefire, just between May 17th and June 1st, Russia has launched 1,020 drones and 90 missiles at Ukraine, causing 12 civilian casualties and between 46 and 90 injuries, depending on how you count. And obviously, this was an ongoing threat. Moreover, as Riki rightly said, a lot of the planes on June 1st, a lot of the planes at those bases were armed with weapons or being prepared to be armed for another round of attacks. And just on May 26th, they launched 400 drones and about 30 cruise missiles and missiles of different kinds.

So obviously, countering this kind of threat was something that Ukraine was planning on doing for a long time, but they had to expedite it. And I think the delivery was extremely successful. I mean, basically, four out of five bases that Ukraine was planning to attack ended up a successful attack. And there was also a lot of prep work. The Russians were expecting Ukraine to attack with long-range drones, which is why they repositioned a lot of the planes, as well as kept them fully fueled, which made it a bit easier to take them out, because obviously, when there's 70 tons of kerosene inside a plane, you don't need that much payload in your weapons or drones to start a major fire, and then it will just do the work. So yeah, that's basically the short story, please. If you have any other questions or comments, I'd be happy to...

[Riki Ellison]

Good. KT, just go through the actual, from your perspective, from a Ukrainian perspective, the actual, as much as you can, on how this happened with the trucks, with the ability to

remote those things. Sort of give us a feel of how you would operate, how that was operated, to be able to do that. And is that easy to do?

[Konstantin Tymonkin]

Well, again, if you start from high-level thinking, so the absence of a Navy makes you creative with figuring out how to make a remote-controlled Navy that can take out a first-class Navy in the Black Sea. The absence of long-range rockets and strategic bombers makes you creative in terms of basically starting from the clean slate and finding modern solutions based on off-the-shelf components, based on things that are available to procure and engineer by themselves, by Ukraine by itself, without any help from the Western world.

And when you start from a clean slate, you don't have this legacy equipment and legacy thinking, so you can basically just concentrate on what can be done today with the technology that's available. And I guess that's pretty much what happened. Obviously, Ukraine pioneered a lot of things remotely controlled. A lot of different drone projects of different kinds were extremely successful. And in this case, the hardest—I mean, obviously, this required setting up a base of operations in Russia, which is, again, a very hostile environment for any foreign activity. There's a major paranoia among the population.

The law enforcement is obviously extremely hostile to anything foreign. A foreign person cannot drive a truck in Siberia without being detained, right, unless the documents are incredibly bulletproof, unless it's a diplomatic mission of some sort. So just even operating so deep inside Russia is hard from a counterintelligence standpoint and breaching that. But then they had to create a base, collect and assemble the drones, obviously get the explosive parts sorted. They had to make sure that all those drones will be charged, so every truck had some charging infrastructure inside. It obviously had to have comms inside in order to support the operation further.

They were remotely controlled, but as far as we know from public sources, every drone also had an AI capability to it, and they were trained on museum pieces. So Ukraine gave out or cut most of what it had, but it kept some in museums, and those were used to train the AI for those drones. So my guess is if the comms were not available, those drones would have been capable of basically executing similar things themselves. And again, this is also currently pretty easily done based on off-the-shelf available technology. It's computer vision and just training of model training and practice. This stuff, it can be done and can be replicated anywhere.

So the major complexity was obviously in making sure that four out of five end up in exactly the right place in exactly the right time. The fifth attack did not happen just because that driver was late for some reason, and he managed to, while he was still driving, he managed to see the news and figure out that he's carrying the same exact little things like these booths as are used in other attacks. And that's why he stopped in the middle of the road and the fifth attack did not happen. But it is a marvel of special operations. It is a marvel of intelligence. And obviously, technologically, it's a huge breakthrough in just putting it all together in one package. Every element of that existed before, but nowhere, it was never used in this way before as a package.

[Riki Ellison]

KT, thank you. That was well done. How would you, from your perspective, how would you, if you were on the other side, how would you defeat this? Is this defeatable?

[Konstantin Tymonkin]

It is to some extent. Well, yeah, I mean, firstly, is asset positioning, right? Obviously, this will make every Air Force and every unit operating significant and expensive assets that are hard to move immediately and hard to protect immediately is where is your stuff, right? So you have to think very carefully about positioning and location of the equipment. Secondly, it's a standard set of items, set of assets that are used currently in Ukraine. Again, just to remind you, we are basically fighting about a 2 million drone per month war of the drones of the same type from two sides along the front line, right?

So there's tactical radars, it's optical sensors, it's fast interceptors and automated targets, right? Those are the, and then at the lowest level, you have your infantry with shotguns, right? That's the lowest possible level of powdering. But it's a combination of all those factors that can protect to some extent.

[Riki Ellison]

Just because the trucks can get pretty close, correct? So you're not going to have much time to be able to track before they hit. That seems to be a difficulty as well as a class one, which is a low profile radar, as well as a sound, not detectable very well.

[Konstantin Tymonkin]

Yeah, so that basically means that, A, again, you position your assets smartly so that your most expensive and important stuff does not have a publicly accessible road within a mile from it. And then you surround yourself with fully active sensors that are actively being monitored, as well as obviously highly automated. And then most importantly, you have the level of readiness of your interceptors and turrets. That is not a five minute, like it's not a five minute readiness, it's a five second readiness, or 30 second readiness at max. That is the hardest part.

[Riki Ellison]

Thank you, KT. Okay, I'm going to pass it over to you, Mark. Mark Montgomery, a board member. He is retired, former J3 of INDOPACOM. He has impressive history with SAS, with cyber, with our Senate, with our Congress. He's brilliant. Mark?

[Rear Admiral (Retired) Mark Montgomery]

Hey, thank you, Riki. And it's great to follow. That was a great discussion. Look, you won't be surprised to hear that probably all of us on here think that was a pretty innovative, creative, well-executed plan. I'd put it on par with the Israeli beeper attack and walkie-talkie attack in terms of planning, and even better in terms of execution, because the Israelis will tell you that they had to pull their thing way too far forward and didn't get everything they wanted out of it. But the planning and execution were fantastic.

And look, this is what you do when your adversary gives you a wicked challenge. And Russia was building jamming curtains and integrated air defense that was making it hard to certainly hit a target this far away. Then you have to outthink him. And that's what the Ukrainians did here. They took the Russian wicked challenge and flipped it on its head for a

Ukrainian challenge. They put themselves inside the inner circle of air defense, and as a result, had a highly successful event.

I do want to make clear, you've heard the Russians whinge a little bit about active terrorism. I would say that this was about as low a collateral damage civilian casualty risk plan as one could imagine. And in comparison to what I can only describe as indiscriminate Russian use of cruise and ballistic missiles and drones, the Russians are on the face of it full of crap.

And the other issue you hear is, well, this is their nuclear—and this is from Americans who are generally not plussed with the support for the Ukrainian war effort—say, you know, here they are attacking the nuclear enterprise. They're inviting Russian nuclear response. I would say these weapon systems were denuclearized by the Russians, by their persistent you know, probably the next day use.

In fact, if you look at the three days before this, there was three really rough nights of cruise missile attacks on Kyiv and environs, executed by these exact aircraft, so with non-nuclear weapon systems. If a Patriot had shot one down, would we have heard from the American, you know, from these Intelligencia that, well you know you show down a nuclear bomber while it was flying. Yeah, because it was releasing cruise missiles. Because of the ranges, it fires pretty feet dry over Russia, but still, you know, this is a nonsensical argument. We need to dismiss it, you know, for what it said. And if it comes out of the administration, it's completely inappropriate.

And then, you know, the other part of the point I wanted to make was to me, what was unique about this was it did demonstrate that, first of all, our idea of layered defense really needs to include all the layers. And we have taken a pass on homeland defense. You know, I can find any one of a hundred comments from General Glenn Van Hurk saying stuff like this is going to happen in America. We've got to be careful. You know, he was warning for four years, as NORTHCOM commander, and I think Guillot has as well for a year, that there is a lot of threat to the United States. You know, we're basically undefended.

You and I have done several events like this. I've done a couple of articles, op-eds on exactly this, that when it comes to homeland defense, whether it's cyber or missile defense, we are unprotected. Our adversary has been developing the exact weapons to strike us, and we are now behind the curve for achieving this. The problem we have in missile defense is the complicating this. There is a hypersonic cruise missile ballistic—you know, a hypersonic cruise missile conventional threat to the United States. In theory, there's drone threat to the United States, all with conventional—equipped with conventional warheads.

And they need—they're much more—the type of defenses you need are of different complexity. We can say stuff like, oh, come up with a low-cost solution. Well, for hypersonic missile defense, that's not going to evidence itself easily, right? That is a complex shot you're trying to take. You know, you need a highly capable maneuvering interceptor, a very effective, you know, zero-data-loss fire-control loop, and a good fire-control radar. That's a challenging—what I just described, there is not like a, hey, we've got the cheap version over here.

We just didn't want to sell it to you, right? You know, those don't exist easily. Now, in drone warfare, there are cheaper versions, and we manage to buy incredibly complex ones and

expensive ones, and we probably need to really look at this. And sometimes cheap doesn't mean the R&D was cheap, and cheap doesn't mean the initial production was cheap. It's the cost per round. So we start to think about directed energy, microwave radar, microwave-emitting pulses—you know, microwave pulse-emitting devices.

There are solutions out here where the cost per round could be cheap. And the U.S. Army's made some good headway on this. The Navy's made some okay headway. The Israelis are claiming good headway, but not revealing too much of the statistics to us. So there's options here. So what I would say is, this is indicative of the idea that we're going to have to drive down—to be ubiquitous, to be everywhere, we're going to have to drive down the cost of intercept, and at some point, the cost of the systems to launch it.

And those are two very separate and very hard dynamics. And I'm excited, you know, we're thinking about it. I will say that when I envisioned Iron Dome or Golden Dome, I try not to envision drone defense, right? Because we already have a really wicked problem with a lot of challenging solutions. If you say to me, let's throw drones in there too, that's going to be problematic. So to me, the big lesson learned was a reminder to us that the enemy can be innovative. In this case, the enemy was our friend, the Ukrainians, and that as a result, we need to defend everything. We knew this. We had an issue at Langley a while ago.

We've known this is an issue, but we have not invested in it. And if you look at the limited investment we had in Syria and a few other places, it is a fairly high unit cost per launch. So I'm excited that this will get us thinking about these things. I prefer that Mike Guetlein, as the head of the Golden Dome initiative, is not thinking too aggressively about drones, that he's thinking about cruise missiles, hypersonic missiles, blitz missiles, how you fight from space. But over time, these come together. You know, over time, they will come together.

And I will say this, that whatever tool we develop to share information broadly, better make sure that it's got the lowest end stuff, an avenue for access for the lowest end stuff. And this is not the Air Force and Navy, particularly. This is not our calling card. Our calling card is making damn sure the high-end stuff can talk to each other. We've had the luxury of that with expensive ships and aircraft. I think the Army is a little more flexible with this than the other two services, but we've got to figure out how we do that.

So, Riki, I'm excited that this reminds us the importance of this issue, just as we're starting to launch off into it. I'm hoping Mike Guetlein is more excited about the more traditional threats and somebody else gets excited about this one. All right, back to you.

[Riki Ellison]

Mark, I'm clearly to understand that our UAS will be part of Golden Dome now. I think a lot of what happened on Sunday is causing that. I think that's a reality.

And the C2 data sharing across the whole spectrum to be able to enable that looks like that's going to be a core component of it. If that was the case, Mark, how do you balance that limited amount of funding to be able to do all of this? And you can't certainly do every single air base in this country or every value target to defend it against something that just happened in Russia that the Ukraine demonstrated. Can you speak to that?

[Rear Admiral (Retired) Mark Montgomery]

First of all, yeah, I want to make clear that despite the fact that I would enjoy saying the Army has to cover this for everybody, I understand that's not realistic. And that services provide for the defense of their facilities. And what we may need is a DOD-wide, maybe driven by an Army general program that understands what's the most cost-effective way to do counter UAS so that everyone can benefit from it.

And maybe it works under the broader Golden Dome. And again, you got to be careful here. But the more things that General Guetlein questions he's trying to answer, the less likely he is to be able to answer the most important questions, rightly and correctly and on time. So I want to be careful. I'm not willing to like just throw that, say, well, he's got the problem, move on. It's a really challenging problem.

But I could see the value of continuing. We've had it in the past, Army-led, but department-wide counter UAS initiatives that figure out what is the most cost-effective way to get them out there and how do we ensure. And then where the Golden Dome initiative and General Gutt is involved is making sure that whatever data transfer, whatever, every shooter, every sensor system he's establishing and using as his command and control, that it's accessible to these hopefully less costly, less technologically driven, well, that's the wrong answer, but less costly solutions.

[Riki Ellison]

Okay. Thank you, Mark. That was great. Okay. I'm going to spin it over to Corky, fighter pilot, ex-assistant director for Air Force Ops, head of analysis for a good bit. And I know from just from this discussion with Mark that the Air Force has done, and NORTHCOM Guillot has done a pretty good job of being able to create a plan to go and bolster their air bases across the country.

And I think the world with your ACC and cruiser. So it just feeds right into that gap. And I know there's concern that that air defense gap, because as Mark says, we're getting ballistic missiles and hypersonics and that part of it, we've got the counter down here, but there's a, there's a gap right in the middle. That's pretty, pretty ferocious to deal with on top of it. But, but also please talk about, or give us your perspective of what happened in Russia. Yeah.

[Major General (Retired) Charles Corcoran]

Thanks, Richie. Great to be here again today. Thanks for hosting that. KT, thanks for your perspective from Ukraine. And Mark, thanks for your wisdom as usual. I'll piggyback on what Mark said about this, this narrative that we're hearing out of some places here about the, those Russian aircraft were, were, you know, should have been off the table because of some sort of a sanctuary as nuclear strike assets.

That's complete baloney. That's akin to shooting at somebody from a hospital or a mosque and then saying, you can't bomb the hospital or mosque. It's, it's, it's a bunch of BS. And we gotta, we gotta cut that off at the knees right away. So this attack is, there are a lot of, a lot of lay, lay people I think came out and said after, after Ukraine's successful attack that, oh, this changes warfare completely. This is something completely new.

And I, I, again, I don't think there's anything new here as far as the concept. The execution was very, very genius, but there's nothing new. I mean, all the way back to Sun Tzu, you know, studying warfare, water's always going to flow to the weakest point.

You know, as an offense and a defense in football, you look for the enemy's weaknesses and you attack there. And a patient, determined thinking adversary is always going to be probing for those weaknesses and they're going to attack at the time and place they're choosing. That's what, that's what Ukraine did here and you got to applaud them for that. And, and there's, there's, there's defensive lessons learned for us and there's offensive lessons learned.

[Riki Ellison]

You've been a big proponent of this offense. This was a demonstration of that.

[Major General (Retired) Charles Corcoran]

Yeah, this was taking out the archer. This is left of launch.

And what kills you on the defensive side here is, is if you have a crisis of creativity or intellectual laziness, where you just sit back and go, you know, that'll never happen. That's how you end up getting hit like this. And so from the defensive side, you know, there is a defense. There's a defense for everything. And, and for this one, you know, I think the way to stay a step ahead of the adversary, if we talk about Golden Dome, you know, we're going to spend billions, hundreds of billions of dollars on Golden Dome. And, and that's great.

That's a threat we need to address. While not likely, it is existential, right? Nuclear, that's, those are existential threats. But there are few, few nations, more and more getting them, but few nations, few actors out there that have them. For a fraction of the cost of Golden Dome, I would contend we could get after what's the more ubiquitous, more likely threat, which could be lone actors, could be non-state actors, could be state actors. But it's these small UAS.

It's cyber that Mark could sit here and talk to us about for hours. And it's not just our bases. I mean, in the homeland here, really around the world, it's critical infrastructure. And I think shame on us if we're just talking about bases, because we need our ports to get to the fight. We need our civilian airfields. We need our power grid, right? All this. So, so this is about defending critical infrastructure. And that still starts sounding like you got to boil the ocean, solve world hunger. But I think, I think you can get after this smartly, certainly inside the homeland, for pennies on the dollar compared to what you're paying for Golden Dome. Not, we need to do Golden Dome, but we can't ignore this. We ignore it at our own peril.

Again, I think it's more likely. I think how you get at it, you got to get way left to launch. Again, you got to be intellectually curious. You got to be creative. It starts with Intel. And, and it's, and it's, it's not just a military problem. It's an interagency problem, I think, here in the homeland, right? We saw this in 9/11. Like I said, we went back and we found out there was a bunch of data. And this is a place to leverage AI. This is a place to leverage AI to sort through all the data we have, both classified, publicly available. The Ukrainians, it said, you know, it took them 18 months to plan this.

There's, you know, if the Russians went back, there was probably some chatter, some stuff they knew about, but they didn't, they didn't pay attention to it. Shame on us if we don't leverage all the tools we have to constantly be on the watch, sharing across state, federal, you know, local level to be looking for these threats and head them off at the pass. The

other thing you need to do is the enemy's probing for weakness. You should constantly be probing for weakness. This is what, you know, you got, you got the scout team in football, right? We, we should constantly be probing.

We should have diabolical, as, as was said the other day by, by our new chairman, diabolical red teamers probing our, our nuclear facilities, our ports, our critical infrastructure, our bases, and finding the holes so that we can patch them up because there will always be holes. There will always be weaknesses. That's how you get after this. You find the weakness before the enemy does, and you shore it up, all right? And that's how they win the championships. You're never going to be 100%, but I think that's what we got to do.

We can't, we cannot afford to be intellectually lazy. And I think there is a golden dome synergy, but I agree with what Mark was just saying. We can't have, we can't have Mike focused on everything. He'll accomplish nothing. Somebody does need to get after this. I think it needs to be more of an interagency effort. It absolutely has to connect in with Golden Some, but Mike needs to focus on that, that high end Golden Dome. On the offensive side, I think what Ukraine illustrated here is again, the value of, of deep strike, a strategic strike of going after the enemy, providing no sanctuary.

[Riki Ellison]

They weren't allowed to do that, right? The previous administration where they were not allowed.

[Major General (Retired) Charles Corcoran]

They were not allowed to do it with our weapons under the previous administration. And then they relaxed that a bit. And I think it's been relaxed some more.

[Riki Ellison]

Why did they, why did Ukrainians do this earlier? Why did they wait?

[Major General (Retired) Charles Corcoran]

They did this with their weapons, right? So they could, you know, it took them time to develop this capability. They were patient. You know, they've defended along the front lines. Meanwhile, they understand the value of not giving Russia sanctuary. They understand the value of deep strike. It's just, how do you get there?

Like Mark said, they got to get through the curtain of air defenses. How do you do that? Well, they drove around them. They had Russian drivers drive their, their UAVs. It's genius, right? So, so look, if you can take out that archer, if you don't give them sanctuary, it forces Russia to pull back, use assets, use resources, the limited resources they have to defend back there, which is less on the front line, right?

So, and it gets the Russian population thinking why we're in this war. So there is a value here again, that they've, they've shown it again, the value to deep strike. And we, we had to, we had to remember that we can't give up on that, that capability on our own.

[Riki Ellison]

Okay. Do you think this demonstration is going to deter Russia or is going to escalate this whole thing up? I mean, these type of things here, right? That was a sound, if you look at it,

deterrent capability to send that message, it can hit you if you're going to strike us. We're going to defend once you come back after us, we're going to do that. That seems like a stable way of doing this, but that also feels that could go that way fast.

[Major General (Retired) Charles Corcoran]

Well, we could talk all day about, well, I don't think personally Putin's going to use nukes, but no conflict ever ends until both sides come to the peace table and agree on what's going on. Do I think this will help drive Putin there sooner? I do, because I think he believed that he had maybe support, tacit support from over here on this side of the ocean and that he was advancing and he had sanctuary. And I think he just had to reassess.

[Riki Ellison]

He's now got to go.

[Major General (Retired) Charles Corcoran]

Now he's reassessing.

[Riki Ellison]

He's got to go defend everything.

[Major General (Retired) Charles Corcoran]

Maybe Ukraine is going to stick around. Maybe Ukraine has the ability to do damage. Maybe I do need to think about what I would give up a little bit more of to go ahead and have peace. So I think this is going to drive him towards negotiation.

[Riki Ellison]

Great. Then just going back to the, because I think you hit it right on the money, the C2. And our country, just our country has so many different C2s with different services.

[Major General (Retired) Charles Corcoran]

And interagency. This has got to be an interagency problem to solve. I'm not saying the interagency takes care of hypersonic ballistic missiles, but at this step.

[Riki Ellison]

I'm talking about data right now. Data and collecting data, whether it's right down by the border or up in space, be able to.

[Major General (Retired) Charles Corcoran]

Absolutely. I think Golden Dome is probably going to be one of the spearheads to create that singular data for everybody to share that.

[Major General (Retired) Charles Corcoran]

Well, we've been talking about it for years, Riki.

[Riki Ellison]

But nobody's done it. But I think we've got a mechanism here.

[Major General (Retired) Charles Corcoran]

Golden Dome is the latest mechanism. But at the end of the day, if you can't share the data and make sense of it and get it to the actors who need it in a timely manner, it's useless.

[Riki Ellison]

How would you defend our country, this counter value with these cities? I mean, you pointed out you could do it cheaply, quickly with a couple of bases, but we can't do all of it. How do we?

[Major General (Retired) Charles Corcoran]

If you think of it from, oh, the military's got to do it. No, there's no way. But at state and local level, there are resources available. Do they have them all linked appropriately? They are getting the Intel feeds not only from the federal level, but from overseas partners. Are we sharing data? Are we sharing information? And this is, again, leveraging AI to find out where the wheat really is versus the chaff so they can focus the local resources. There are some things that we don't have.

There are sensors we probably need. There are effectors we certainly need for counter unmanned stuff. But a lot of this, I think, is getting really far left in that Intel. It's hard to keep... Nobody's just going to show up one day and do this. It takes time to plan this and there are leaks. There's information out there. How do you find it and stop this before the spark becomes a fire?

[Riki Ellison]

Those are the great teams with the greatest...

[Major General (Retired) Charles Corcoran]

Yes, great teams that share information.

[Riki Ellison]

...that have done their steady due diligence.

[Major General (Retired) Charles Corcoran]

It's going to be tough. If the truck's parked right next to the airfield, it's going to be tough to stop it after they launch.

[Riki Ellison]

All right. Good stuff. Thanks, Corky. Okay. All right. We're going to switch over to the perspective and maybe a little special ops. Jamie Jarrard, retired former Deputy Commander for US Army Pacific and also operations for Special Forces years ago. So, Jamie, welcome.

[Lieutenant General (Retired) Jamie Jarrard]

Thanks, Riki. Thanks to Corky and KT and Mark. I think they've covered it well. I think I'll be a little bit redundant with some of the thoughts that I have, but as I pick and choose just points to reinforce from the previous speakers. For the threat to start off with, I think KT, when he said, if you can isolate all of your critical infrastructure from a mile in, it would be beneficial. How do we do that, not only for our military installations, but also for all the critical infrastructure?

Mark didn't comment on the CAL-DAL, which he always comments on in all of these discussions, but it is much bigger than just the military installations. It is all of our critical infrastructure. How do we protect that?

That's a pretty daunting challenge. I think that, and again, not only on this one, but previous discussions, we've talked about the ability to see, sense, and understand. And so, do we have the appropriate sensors in place to do that? And I think the answer is no right now. And so, we've got a long way to go and really a short time to get there. This threat, this event, I think, really did reinforce, it should reinforce to all leaders that the threat has grown considerably because not only was this a very well-planned and well-orchestrated event, but it was done very cheaply.

And I don't know if KT can put just a general cost estimate on it, but it was, you know, there was obviously a lot of time, a lot of energy, and a lot of expertise in the planning, but the overall expense of this one was probably less than a couple of million dollars or something like that. And so, that means that there's a lot of people, a lot of adversaries, a lot of evil individuals that could do something like this in the future with very limited resources. And so, that makes it infinitely harder. And so, you know, Corky was just talking about the data. And so, how do we have, how do we see the data? How do we understand it? And then, how do we share it? And then, how do we include the, you know, KT also talked about the automation within the capabilities. And so, how do we automate that data so that we are executing at the time standard we need to execute, the speed of action?

And so, we're talking about seconds, not minutes or hours that we're going to have to be able to execute if we're going to defend all of the threats that we need to appropriately. And that is much bigger than the United States Army. As Corky was talking about, it's not only the Army, it's all the services, but it's also the interagency, especially here in the United States. And it gets into the authorities piece. Who has the authorities to actually do something? And are we, are we understanding what needs to change and advocating for that change as quickly as we need to?

But then, also, as we look to do that within the United States, when you get into the interagency, it's going to have to be an unclassified level, which is not necessarily a bad thing, but that should make it, one advantage of that is it should make it easier for us to transmit that data at a level where we can share it with our allies and partners overseas as well, because it's going to take their help in locations outside the continental United States. And so, there are several things that I think this event last weekend crystallized for all of us that need to take place very quickly and to change very quickly. And, you know, from an Army perspective, and I think I speak for all the services, which is a broken record, is one of the things that we need is we need to spend money on this, on the research and development, on the testing and evaluation, on the exercising of all of this, so that soldiers at the very lowest level are competent and confident in the capabilities that we're giving them to do this.

And to do that, we need a budget that is passed on time every single year. And that's not something that has been helpful to all of the services here over the last several years when we're talking about new spends on research and development or buying new capabilities, which sometimes is limited when we do not get a budget on time every year. And so, there's

nobody really in a leadership role in the United States that is free from responsibility to help us solve this problem. Speaking from an Army perspective, I know that, you know, we think as we get that cost curve down, we're going to have to get to the directed energy solutions, at least at some level. It can't be the only solution, but it's going to have to help at some level because of the speed cost and really the magazine depth. We can't be, you know, spending a million dollars on every drone we're trying to counteract.

But we've also got to, as I said earlier, we've all got to work on the sea sensing and understanding. And then the systems, and we go back to, and JD can potentially comment on this, on the JADC2 or the SeaJADC2 or whatever the command and control architecture is, we've got to be able to see, sense, and understand together, together across the Joint Force, together with our allies and partners, and together with the interagency. And so, how are we creating the open architecture systems to be able to do that?

And then we've got to do a better job with training individuals. You know, I think back to when I first came in the Army in 1989, and we were in Germany before the wall came down, and it was air defense training was a skill level one task. And I think we've gotten away from that. And I think the Army here over the last couple of years has really focused on it more because of the threats that we've seen in the Middle East and because of the casualties that that has provided. But we've still got a long way to go and got to get better. And so, I'll pause there, and take any questions.

[Riki Ellison]

So, Jamie, you explained that well. What's it going to take for our country to move on this? I mean, we had the drone attack, not attack, but the Chinese flew those drones on Langley Air Base. We couldn't see them, couldn't track them, wouldn't have the authorities do anything about it. Now, that was a year and a half ago, I think. And we continue to see evolution, but we're not moving as fast as a threat. There's no question. We haven't had the initiative. The only biggest thing we've been doing is the Golden Dome to get that going, but there still seems to be a ridiculous gap of not being able to be ahead of that threat that's moving out. I know we spent a lot of money overseas, CENTCOM, in doing this, but we've got the border issues that are coming on. We are not moving fast enough dealing with this. And so, just to comment on that, because as Mark might have said, each of the services should have their own bases, great, but that's money from everybody.

But still, you've got these other areas that are not based that have to be protected. And is this the National Guard? I just want to throw a lot at you real quick, Jim. Is this the National Guard mission for U.S. Homeland? Why should we be putting our troops forward that need to be forward at home doing this mission like we're doing right now on the border down in Arizona?

[Lieutenant General (Retired) Jamie Jarrard]

A lot of questions there. I'll try to tie them up. I'll probably miss one or two, but I think what we're doing today is having this discussion, is raising the awareness amongst, well, for whoever's watching and whoever's paying attention that this is a problem and that we need to address it. I know that I saw a report over the last couple of days that we've had just at U.S. military installations, over 600 drone events since 2022. So just in the last three years, over 600. That's just military installations. No telling how many, you see a report every now

and then about an airport having to shut down for an hour or two because of a drone or something that's flying around and we don't understand what it is. And so that number is probably, you could probably triple it or quadruple it. And so we've got a problem, but some people do not think it's as big a problem as they should be thinking.

Hopefully last Sunday, we'll clarify that, but we got to keep talking about it and we got, it's all about priorities. And so who in the government is going to be the primary advocate to understand that this is something that needs to be prioritized, whether it's policy, authorities, budget, all of the above, we got to have some. I know that there are some in Congress that understand the threat, but are they going to continue to advocate for it with all the other issues that are out there that people are, that think are the, you know, the tough one that they got to grapple with. And, you know, just passing a budget is hard enough for us. Does it have the right things in the budget is another area. And so I don't know how we're going to get that awareness except for keep talking about it.

As far as the National Guard, I think that that is an option. You know, when we get to the state and local level, I know that governors will absolutely consider the National Guard as an entity that should be used in the protection of the critical infrastructure in their state. And so I think that is an opportunity. I mean, I think that, you know, governors, getting governors on board to understand this threat may be a key piece of the proper advocacy that gets this at a national and state level that raises it into the level of priority that it truly needs to be. But I absolutely think the National Guard could be a big part of this. I think I captured most of them. I'm not sure if I got all of it.

[Riki Ellison]

Yeah, you certainly did. And I just, right now, the only avenue seems to be the Golden Dome, unless you're going to create a whole nother executive order just for counter UAS. And that funding for that, I think, again, going back to the data share, that's the key thing for everybody to get that one thing done. And if the Golden Dome can get that done and have a true joint all-domain command and control to share that, that would be wonderful. I'm with you on the National Guard. Corky, any other discussion here?

[Major General (Retired) Charles Corcoran]

I think we're in real trouble if we need an executive order to get after this. Well, it doesn't seem like we're getting after this. I think we got state, federal, and local folks. We got business. Everybody knows they need to get after it. People need to get after it. You don't need to wait for the President of the United States. But they're not moving.

[Riki Ellison]

It doesn't seem like we're moving very well on this. And hopefully, what happened on Sunday, we'll move out on. Do you have any comments, KT? Do you have any comments?

[Konstantin Tymonkin]

Well, I would say that I think the 80-20 rule applies here, especially for this specific case of protecting airports and really significant military assets against these types of drones. Basically, you can get about 80% of capability with 20% of the money. When you need to get to 99% capability, that's where it gets really expensive because you need to put a lot of expensive and sophisticated stuff.

But realistically, if U.S. companies just look more attentively at what a lot of companies in Ukraine are doing in this field already with interceptor drones and all sorts of other technologies that are available significantly cheaply because there's a scale of production being done locally, and they just bring that to the U.S., and you can quickly deploy some of this stuff. Yes, it'll be one of the components that is required, but you can actually get stuff installed on scale at hundreds of places within months of time at a fraction of the cost of developing once or even fielding one of the systems for high energy or any others that are being worked on by major primes within the major programs. Just start with that, do something, and then add to it later.

[Riki Ellison]

Okay. JD, we got JD Ganey here calling from Denver, Colorado, I think. JD, welcome. We'll open it up to you for a couple of comments.

[JD Gainey]

Yeah, that's right. So, well, one comment then is going to lead into the questions. I really don't have anything coming from the audience or the pre-emails. There's some questions that require very confidential and classified answers, so we're not going to go down that path. So, a comment, General Girard, you mentioned JADC2. Let's not bring in these mythical beast and hope into a conversation where you actually see innovation going out there and kicking butt. It's fantastic. But along those lines, you bring up a good point. Corky brings up a great point. KT, you alluded to it. KT, can you kind of provide some insights on the decision space, time it takes for an opportunity to present itself into action? And the reason I'm asking that question is there's a relationship between defensive designs, which is maneuvers measured in weeks and months, with respect to the action, which is measured in seconds.

And that's just from a defense perspective. And there's influence on that maneuver based on what you do offensively. So, are you able, can you speak to how you streamline or flatten the intelligence enterprise influencing an evolution like this? And what's the causality to the respective defense designs?

[Konstantin Tymonkin]

Well, basically, again, we are in a happy, unhappy situation of being able to test things immediately, as well as being challenged all the time. And the combination of these two things basically brings us to the point where when you have people struggling today, you understand that you don't have time to develop a perfect, final, ultimate solution. Any solution is better than no solution.

So, you just make stuff, send it over, use it, get feedback, make better stuff. And you iterate immediately and very quickly. And if we kind of move it to the peaceful land of the free, today, if 1% of what is supposed to be spent on such a system would be allocated to basically this continuous movement of just deploying things, testing immediately, upgrading, and deploying new things, knowing that they probably will not be good enough, or they won't be perfect, but you will get a long way with that.

And this approach can get you, just constant experimentation and fielding, as well as extreme attention to what is happening in Ukraine, as well as, obviously, the ability to experiment in Ukraine. Ukraine has been very receptive to all U.S. companies coming in,

bringing tech, putting it anywhere from critical infrastructure to frontline, using it, seeing how efficient or inefficient it is, and reiterating. And I do understand that when I said that they can look at Ukrainian companies, I understand that U.S. will not be buying Ukrainian products directly, but they can license out the good ideas. They can license out the production processes and ideas of how that can be done. And they can experiment immediately, again, coming back to Ukraine and do it, and then bring stuff in and deploy something at least quickly. Because, again, if the Russians had as much as a bunch of guys with shotguns, or as much as a bunch of automated turrets, or even mechanical turrets, just people with machine guns on pickup trucks that could move around the base and try to shoot those things down, that would have saved them a couple billion dollars, right there and then. And obviously, yes, there can be and there are better solutions to this, but do something quickly, and then extend and improve.

[Major General (Retired) Charles Corcoran]

I'll piggyback on that. What K.T. was saying there about the hardware and the people with shotguns, it highlights that you got to be just as agile with the authorities as you do with field and hardware. The folks at the local level need to know that it's okay to pull the trigger, and they need to be conditioned to pull the trigger, not think, ask, oh, I'm not sure. Because in our system, generally, the ROE is held pretty tight and pretty high until we're in a conflict. Guess what? We're there.

This stuff is flying over our bases, it's flying over our critical infrastructure now. And our people at the local level aren't trained to sort of shoot first and ask questions later. We need to get into the mindset of, it's your job to defend this infrastructure, and you have the authority to do it, and we got your back. I think part of the way to get there is what I mentioned earlier, is we need red teams that are probing our infrastructure all the time to condition our defenders of all these critical infrastructure sites to be ready for anything and to defend on a moment's notice, not ask permission, not wait for permission, but to be postured to defend.

[JD Gainey]

That's great. One final question. K.T., you mentioned about training the AI models for this event. At the COCOM level, what I've been exposed to, and coming off the AI initiative, coming out INDOPACOM, the question has always been, what type of data do you need? Where's that data coming from? And the authentication of that data. So when you start talking about training AI models, and you're also familiar with this with what you're doing for Sky Fortress as well, can you give us at a macro level what that really entails, from how much data do you need over time? Is it resting data? Is it historical? Is it a repository that you need constant access to? Is it also a separate AI tool that you have DevSecOps being conducted hand-in-hand? And the reason I bring this up is because not only do we have various combatant commands out there, we also have different services and branches and functions within services that are pursuing their own AI-driven type tool determination.

So from you as somebody that's doing it real time with an actual foe, can you kind of give us an idea of what that stream looks like? Data identification, pulling it down, authoritative data, and training the models?

[Konstantin Tymonkin]

Well, again, it depends obviously on what kind of, what are you training and against what are you training it. But starting from this type of threat, this is actually the easiest, because basically every single US Air Force asset is available in really, really, really good 3D open source on the internet. It's part of computer games. It's part of all sorts of simulations. And you don't need an up to a micron level precision model of a B-52, right? You have enough precise, fully open source models that you can just buy for a dollar or get for free. And then in the same environment where you train your drone pilots and you train your algorithms for drone autopilots and automatic target acquisition, you just insert that model there and you start training it. And that can be done literally tomorrow for pretty much zero dollars. And that's the sad part.

Obviously, when we're talking about training models on more sophisticated or more obscure threats, where you need like sounds or radar signatures, or all sorts of things that basically are not directly visible, perfectly clear shapes, then yes, you need to get more data. But again, if we're talking the experience of Skyforges, instead of creating a database of thousands of sounds and then trying to have a neural network that will be immediately going through those hundreds of thousands of samples, Skyforges went towards creating a physical model of sound that kind of unites the unique properties that this target will emit, that we'll have, and the sound properties that it will have, and then just trying to figure out those specific things against the model and not against thousands of samples.

So in any case, overcomplication is great scientifically, but really hurts you when you're trying to fight a war, because that immediately raises your requirements for your hardware, for your processing power, for electricity consumption, weight, complexity, management, and obviously then transits into time of development and deployment and budget. So if every time when there's a task like that to figure something out, you start from a clean slate and not from the high ground of being the most powerful, the most knowledgeable with the most assets, and then doing things the complicated way first, rather than trying to do the easy way first, which in most cases can be extremely efficient, not 100% efficient, but more efficient than anything else, and most importantly, faster. So yeah, I guess that would be, I don't know if that answers it, but that's my take on it. Don't overcomplicate.

[JD Gainey]

Oh boy, yeah, yep, sorry for nerding out on a Friday afternoon. All right, Riki, over to you to close out.

[Riki Ellison]

Okay, let's just, let's go around and close it out. Any closing remarks would be great. KT start us off on the session here.

[Konstantin Tymonkin]

Well, again, this attack didn't change the world for those in the know in the military. What I think it did, because obviously anybody who really worked either on the offensive side of such operations or in prevention of such things being applied against US assets, this was a known threat. What it did was it created the understanding among the policymakers globally that this is indeed a threat and something has to be done about it. And I guess if there ever was a moment to start taking this seriously, but also being able to act on it, the moment is now.

[Lieutenant General (Retired) Jamie Jarrard]

Yeah, and I'll continue off KT's comments. I think a lot of people in Europe and NATO are worried about the strategic capabilities of Russia. Now I think they should, this opens their eyes that there are other threats out there that they need to be prepared for as well. And again, to double down on KT's recommendations, we should be absolutely be going to school off of Ukraine and Israel and others who are in a knife fight day to day and having to come up with innovative solutions.

The capabilities that were demonstrated last Sunday are going to be different than the capabilities that are demonstrated five years from now. And so, if we spend five years trying to solve that problem, we're not going to be prepared for the problem in five years. And so, the continuous innovation and learning has got to be prevalent in anything we do as we try to tackle this problem. Thanks for having me.

[Riki Ellison]

Thanks, Jamie. JD?

[JD Gainey]

No, it's exciting. It gave people a pause on the innovation that's happening out there that should influence what we're doing. And critical for us is we just can't reiterate the present on the way we do business, right? So, the takeaway to General Guetlein, and those who are looking at next generation, is stop trying to plan and defeat the current threat set. So, yeah, this is a good discussion. Thanks for letting me be a part of it.

[Riki Ellison]

Thanks, Jamie. Corky?

[Major General (Retired) Charles Corcoran]

Hey, thanks for hosting, Riki. Thanks to the fellow panel members for the great comments today. Yeah, I guess I'll pile on – well, first off, congratulations to Ukraine, a successful strategic strike that I think, again, reset Putin's thinking and will hopefully drive him to the negotiating table.

And then to pile on what Jamie kind of hit on there is there's no substitute for critical thinking, intellectual curiosity, and continue to drive forward in that manner. If you get lazy and if you stop thinking, the adversary will find a weakness and exploit it. So, we need to keep thinking and keep moving forward.

[Riki Ellison]

Thanks, Corky. I thank everyone here that participated in this. This certainly is an inflection point. It's a momentum shifter. And the fact that it was both a left of launch, right of launch, offense, defense combined, enabled by data, sharing, picking up, really gives a perspective, a public perspective of what's required to win and to defend ourselves. I think this is going to propel both in attention, both in resources, both in priority. I think it's going to be coupled under the Golden Dome, whether Mike likes it or not.

I think he's going to have to deal with it because that's how it should be. If we're going to defend this country from everything, that is part of everything. And we cannot continue to

ignore the problem. And we've been doing this. And the authorities, it's got to be shaped. It's got to be turned now, because this is going to be one of future events. That're going to start coming hard until we figure this out. It's got to be figured out now. And so, I think we're at the right place at the right time here with this momentum and energy going forward to do it.

This just fueled a fire, and we're going to go get it. So, thank you. Thank you for participating. Thank you for the discussion. We have elevated it, and we're going to propel it. Thank you.