Virtual CRT Golden Pacific Getting Missile Defense Right in the Pacific

[Riki Ellison]
Good afternoon from a pretty cold day here in Alexandria, Virginia. Not as cold as the eastern front, but it's cold here. I want to start off with Bravo Zulu, the U.S. Navy. What an exceptional game this past weekend, and it came down to the last play, which is great football. I just want to put that out there. Both teams could have won it at the end, and so I'll give it to Navy.

Hi, I'm Riki Ellison. I'm the chairman and founder of the Missile Defense Advocacy Alliance. It's been 25 years, and I have been involved with missile defense for 45 years. 45 years, and we're solely on the mission, pure mission, on advocating for missile defense to make our nation and the world safer in deployment and evolution. And it is. It is making our world safer, and we need more of it, and that's where we're going to go with this discussion.

Welcome to our 89th virtual on Golden Pacific, what we can make missile defense right in the Pacific. I've just returned from a 44-day trip around the world and back, and 30 of those days were in the Pacific, from Japan, Guam, Honolulu, Hawaii, Seattle, San Francisco, and Los Angeles. And that theater, that region, is the place where deterrence must happen, and that is the critical place to deter the biggest threat to the world order. And missile defense plays a tremendous part in that deterrence. And from those travels and meeting with our warfighters, both allied Pacific allies and our own across all the services, my observation is that we see a competition maybe or a difference between wanting a persistent missile and air defense that's there all the time, versus an expeditionary one that can move. And most of the services line up with expeditionary.

The Army is using Guam specifically to create their expeditionary new composite air defense capabilities. And it's brilliant, it's phenomenal to see, but all those pieces are movable, and those are designed to go expeditionary to where the warfighter wants them to go. And we look at the Navy, and the Navy has probably the most capable missile defense platform in the world on an Aegis BMD ship that can defend 360 all the way from sea to space. But those ships are expeditionary. And the Navy over the last 20 years have fought it, but they've been forced to do persistent missile defense in Europe, in Romania, in Poland, and in Guam, whether you call assigning two ships or one ship, that's persistent rather than not having. I think you look at the Air Force, and they want to do agile combat mission, and they want expeditionary missile defense to move all over the place in the Pacific. And the Marines obviously are an expeditionary force.

So the only two major people that, or excuse me, three, would be the Space Force, who would have persistent capability. And I would say, Missile Defense Agency, because they created the GMD system that does persistent missile defense and very good at that aspect of it. And I would say the Golden Dome, because the Golden Dome is not expeditionary, the Golden Dome is persistent missile defense. And the Golden Dome is going to have to persistently defend Hawaii, Alaska, California, and the Pacific - Guam is the discussion we may have today a little bit about it. But there is the dilemma between that. And we know

INDOPACOM looking possibly to put a joint task force or joint task force command on Guam, a facility there that's going to require persistent defense versus expeditionary missile defense capabilities on that. And so that's where the discussion is going to go.

We'll go off of that to get the missile defense right on it. We have a representative from each of the services today. I'm just very honored to have Charlie come in. Shotgun had something happen, couldn't make it at the last minute. And we've got Charlie, all three of our speakers have been in high commands in the Pacific on that. So the expertise here is really, really, really good. So I'm going to pass it off to Charlie. He's calling in from Florida. So Retired General Charlie Flynn, the USARPAC former general.

[GEN. (Ret.) Charles Flynn]
Thanks, Riki. And Ty, good to see you. Monty, good to see you. And Merry Christmas. Happy New Year to you all and everyone on the net. So aside from, you know, go Army, beat Navy or go Navy, beat Army. We just need to be beating China. That's what we need to be doing.

Okay, so listen, this is actually quite timely, given the critical status with national security. But I'd say that the evolution of our land-based missile defense forces, like for too long, we've just been static defensive lens, fortified positions, really designed against incoming threats. But in the competitive environment that we're in right now with hypersonic weapons, unmanned systems, asymmetrical warfare is, you know, well past time to rethink the paradigm on this. So today, just a little preheat here on transforming our land-based missile defense from a purely protective posture into something far more dynamic. Expeditionary forces with a maneuver mindset. And that's not traditionally in our air defense forces, but we need to turn that over. And one that actively supports operational commanders, integrate sensors from end to end on those engagements and leverages, you know, innovative mobile technologies. So we can also get agile, mobile, reloadable, affordable, and remain lethal.

So let me start with a little bit of why. Our current land-based systems, like ground-based, mid-course defense, Patriot batteries, they've proven they're worth in defending fixed sites and fixed assets, bases, cities, allied territories, you name it. They've saved lives, they've deterred aggression, did all those things, but they don't align with the fluid high-tempo battle space that we're faced with today and tomorrow. And we can see already with China and Russia fielding mobile hypersonic and the saturation type attack capabilities, we have to move beyond that static defense.

We need a force that's expeditionary, capable of deploying rapidly into different locations, but also has the ability to abandon the defense, if you will, and start making it offensive capable, turning the shields that we've had before into swords that enable the joint force to see some initiative here. So this isn't about just being defensive in nature, it's being able to do counter fire, both from a lethal and non-lethal standpoint. And at the heart of this shift is maneuver mindset. Imagine missile defense units that aren't just guardians, but they enable commanders on the front lines. No more silos between defensive position and offensive position. Instead, it's got to be a unified approach where missile defense supports the commander scheme of maneuver, buying time and space for offensive operations. And this means units have to relocate quickly under fire, they've got to disperse to avoid detection, and they have to reform to concentrate those effects where most needed. And key to that

transformation is actually tying together all these organic sensors in every layer to do more than just detect and intercept. And we're talking about having a system of systems that is able to track those threats back to its origin and enable precise counter fire.

So the sensors, whether they're ground-based, electro-optical systems, or space-based assets, they have to feed a common operating picture. That network has to cue those interceptors, and it has to identify launch sites, command nodes, supply lines, both in near real time, but allowing for immediate retaliation. And imagine if we could pick up all the tells from just any of those launchers and be able to do an intercept of those inbound threats while at the same time geolocating the origins and using hypersonic fires as counter fire. And we have to close those chains very quickly.

So how are we going to do this? How are we going to scale it? Well, I think the real beauty is in the economics and the flexibility of containerized, cheap, mobile, ones that we can make a scale, leveraging commercial off-the-shelf tech from industries where we have the logistics and the aerospace and the technology to integrate these things already. They need to be expendable. They need to be able to operate in high-threat environments. We need to be able to lose a few without crippling the force. The interceptors have to be interchangeable. And those containers need to be able to adapt to every mission. They have to be plug and play. And we have to approach this as maximizing our versatility and allowing commanders the ability to tailor those loads based on the threats, their defensive positions, and their scheme of maneuver while being able to do strike-capable operations today and tomorrow.

So anyways, Riki, I know that we've talked about this before. That is not exactly what is out at Guam right now. But the way it's been formed and the ideas behind it can be transformed fairly quickly in my view. But this isn't going to be cheap. And we've got to be able to move it by air. We've got to be able to move it by sea. We've got to be able to move it by ground. And we need to be able to drop them off, pick them up, reload them, do maintenance on them very quickly, and then link them immediately into the network that's out there.
So it's not going to be cheap. And I know none of the other services want to pay for any more missile defense and another service, but the Army's not funded to do this stuff right now. Hell, when I left in 24, our budget went down by $12 billion and the Navy's went up by $14 billion in the same year. So the money's not there unless somebody's going to help the Army do this. So I acknowledge the fact that we are not that way right now. However, the technology is there and we need to go that way, but it's not going to be cheap in the near term. But thanks a lot for letting me be on the net and great to see everybody.

[Riki Ellison]
All right. Hey, Charlie, I got two big questions. I want to start with the first one.

What you said is absolutely right. And you're creating that force to do that transformation of offense, defense in those containers, but it's not doing persistent missile defense. I know why we're in Guam to be able to get that Army system correct on the defensive posture side, but it certainly doesn't look like it needs to be in Guam as persistent. You're wasting all that. There should be a National Guard capability for permanence, persistence, and that expeditionary force should be parked somewhere else that can move fast or it's going to be flown into or shipped into other areas in the Pacific. I'm just trying to understand the

difference there, because it doesn't look persistent. All those things they're doing in Guam is all going to be mobile.

[GEN. (Ret.) Charles Flynn]
You hit a couple of things here. So the defense force around the National Capital Region is National Guard. The defense force up in Alaska at Greeley is National Guard. There's no reason why we can't put National Guard on that site in Guam. It makes complete sense to do it. We tried to go that way. They need to keep going that way. I've given them my piece on it. We should have done it years ago, but it is what it is.

On the mobile part of it, what I'm saying is the technology is there. We haven't designed the force to do that because it was defense of Guam. And when you say that, it's a point defense. But if you put the capabilities together and distribute them, the towers and the software and the launchers—now the launchers need to get a little bit more form factor road bound and then be able to be moved by air and sea very quickly, whether it's littoral combat ships or whatever we have for Army watercraft, etc. It's got to be able to be moved around very quickly. And so the size of those assets out there, whether it's launchers, radar, interceptors, C2 nodes are going to have to get into a smaller form factor, period. They are not that way right now.

[Riki Ellison]
You're saying that's an expeditionary force in Guam, right? And that's what you're saying, that can be moved.

[GEN. (Ret.) Charles Flynn]
That's right. Some of those capabilities can be moved. If you're going to move a Patriot MEP, it's like nine C-17 loads. That’s not even a battery.

[Riki Ellison]
We're talking containers now. We're going in that direction. We're going to move quick and your Army's going in that direction.

[GEN. (Ret.) Charles Flynn]
And we have them. But again, this isn't something you can do quickly and overnight, but you've got to get started right now. The containers are there, but we're going to have to do some rehearsals and do some practicing in order to do this. You can't just say, well, that's what we want to do. Now, I'm not worried about SHORAD. I'm not worried about high-power microwave, high-energy lasers. We have those. That's not the issue. The issue is getting something that's a little bigger that can protect larger locations, but it can also be reloadable and it's mobile and easy to maintain.

[Riki Ellison]
My second question is, I do want you to touch on the counter UAS for the maneuvering force, which is different than what's in Guam. The stuff that's got to be out there with your maneuvering force. We're not touching that, but I just want you to comment on that.

The second thing is with these containers, which you've done in RCCTO, you've done hypersonic stuff and you've done SM-6 in it. You've been able to strike from it, but that's a much easier. We did a virtual on this on October 2nd on these golden launchers. But to put

defensive capability, SM-3s, you're going to have to be very exact. You have error that you can't have. With the offensive systems, you get away with a lot more than knowing precisely where that container is to be able to hit and all of that. Is that container capability mixed with offensive-defensive capability? To be able to go into the Pacific, not persistent, expeditionary. You can't do that in Guam.

[GEN. (Ret.) Charles Flynn]
I know that, but I guess what I'm saying is we have to design it that way. We can't not have it that way. It has to be able to do that.

On the unmanned county UAS stuff, we need smaller mobile sensors that are expendable, but they're linked in and we have to get up into a cloud. This is not hybrid. We've got to get up in a cloud and be able to move that network as we need to around so that all those counter capabilities can be brought together quickly over locations where we know we're going to have threats. By the way, I think this is exactly what we need to be talking to our partners in the region about because Korea needs this. Japan needs this. Taiwan needs this. The Philippines need this. Everybody needs this. We're not alone in this thing.

I think that our technology and operational concepts and then getting smaller form factors with containerized launchers that can be both defensive and offensive by way of counter fire, we have to do this very quickly in that region. You can see all the countries are screaming for it.

[Riki Ellison]
But this is not Golden Dome. This is not permanent. You're not going to do this. That's what I'm saying. That's where there's a mixture here that we got to figure out.

[GEN. (Ret.) Charles Flynn]
Yes but conceptually, it has to be thought through together. It may have two separate distinctions on how it operates, but it has to be considered strategically when we tie it all together because it has to be tied together.

[Riki Ellison]
Yep. Okay, thank you, Charlie. I appreciate your time on this.

[GEN. (Ret.) Charles Flynn]
I could stay until 1:30. Because I know Monty and Ty are going to bad mouth me.

[Riki Ellison]
Yeah they're going to come after you.

[RADM (Ret.) Mark Montgomery]
Before he goes I got to say something. Let me quote Charlie Flynn here. I want a maneuverable system that's expeditionary, can be both offensive and defensive, shield and sword, and has integrated such networks. What he's describing is called an Arleigh Burke destroyer. I did not know Charlie Flynn really wanted to join the Navy when he was young.

[GEN. (Ret.) Charles Flynn]

Well, I am from Newport, Rhode Island. The problem is the Navy can't build a ship that goes over dirt.

[RADM (Ret.) Mark Montgomery]
I'm sorry. I just had to get that.

[Lt. Gen. (Ret.) Jon Thomas]
I can't wait to see the mod on the Arleigh Burke with wheels and tires on it driving across northern Luzon. That'll be a good one.

[Riki Ellison]
Let me introduce Ty Thomas. He's a former DECOM for PACAF. But Ty was with me in Hawaii a week or two ago with our ARTEMIS program and the PAC-25 conference. And he saw what I saw on that position of Golden Dome funding versus INDOPACOM and that situation of persistent defense that Golden Dome brings versus expeditionary aspects. And Ty, I do want you to speak off on the expeditionary force of the Air Force, because they don't want permanent stuff either. They want to move. So the floor is yours, Ty.

[Lt. Gen. (Ret.) Jon Thomas]
Okay, great. Thanks, Riki. First of all, it's great to join the panel and be back doing one of these roundtables. And second, this is our last one, I think, for the year. So Merry Christmas and Happy New Year to everybody here on the call who's joining us on the panel.

So first of all, I think, Charlie, to address your point, there's nothing you said that I disagree with. We've got to have expeditionary air missile defense forces that are going to both protect maneuver units, but also contribute to the broader theater level. And I'll explain that in the second point that I'm going to make about area air defense commander. But really, just kind of three things that I want to touch on. Most of it is going to be on the persistent stuff, Riki, because I think there's some critical issues there. Maybe we expose and they get brought up in question.

So the first one is, and General Flynn touched on this, is the relationship between the Guam defense system and Golden Dome for America, GDA. I think just at the very beginning, you have to start with the proposition that GDS is part of GDA, just based on the principle that Guam is US territory. Okay, so that's like an easy one. But the next step there is that there are going to be elements of GDS that can contribute to GDA for its missions that aren't even on Guam.

Sensors are a perfect example. So, it was pointed out that we should be able to pull all sensor data, put it into and build a picture that shows, okay, where's everything going? And the sensors on Guam may be picking up things that are threats going to other parts of either the INDOPACOM theater, or possibly maybe less likely to the homeland.

So that's a critical part that GDS needs to contribute. The next thing is, I kind of sense and maybe you can add a little bit more if you want to later on that, that there's a desire for GDA with this gigantic pot of money that everybody is really looking at. Well, can you help us with GDS? And if we have holes filled in there? Well, if I'm on the GDA side, maybe I'm

willing to do that. But I'd certainly like to be sure that the things that you contribute in support for GDS, that you have confidence that those things are going to contribute to GDA.

Now the sensor is probably an easy thing. It costs, you know, the commander that's responsible for Guam defense, nothing. But let's think about effectors. Effectors are fungible. And so what if you want to make a decision to put effectors and deepen magazines elsewhere at the expense of Guam? Who gets to make that choice? I think that's a question worth pondering, especially if you're GDA and you're being asked to help fill in gaps and holes. That gets all the way down to like tactics and shot doctrine and the amount of risk somebody is willing to take defending Guam versus the amount of risk you're willing to take elsewhere. How many shots are you going to take? How are you going to deplete your magazine? Those things are all particularly important questions that I would hope that the decision makers about this kind of discussion between the relationship between GDS and GDA and resourcing include in their discussions. So that's point one.

Second is about the centrality of the area air defense commander to INDOPACOM IAMD. So AADC, I think everybody understands that. And the PACAF commander, that's a role, a joint role that the PACAF commander fulfills. There are several other really important ones, theater joint force air component commander, TJFAC, the commander of air force forces, really important hats that the PACAF commander has. There has been and continues a discussion about, well, when things transition from daily competition to crisis to conflict, we're going to stand up regional air defense commanders in the Indo-Pacific, which is really smart, and we need to do it. We got to make sure that as we're doing that, just having that discussion, and talking about how we're going to employ as we transition from crisis to conflict, that we don't think, well, you know what, we can just hand off AADC responsibilities to the DAADC. He's got it, the RAADC's got it, and I can really go back and focus on TJFAC and other responsibilities. That could be really attractive. I would suggest that it is going to incur a lot of risk.

One example, and this now talks about the expeditionary forces and their contribution actually to fixed site defense. So expeditionary forces can be, you know, make sense, defend maneuver forces on Luzon or into the southern Japanese islands or, you know, a carrier strike group. But who's looking at whether, let's just use the Arleigh Burke example that Mark brought up. What if an Arleigh Burke somewhere in the central Pacific is actually in a better position to take a shot on an inbound ballistic missile to Guam than anything else? Who's going to make that call? Who's making that decision?

What if it is that there's something that's sitting in a container on northern Luzon that actually has better shot at a cruise missile that's inbound to one of the sites in the Marianas Islands? Who's going to make sure that that choice is made and accept that risk? Only the area air defense commander can do that because that's likely to span multiple regions that a RAADC would be responsible for. So it just, I bring this up because sometimes we get lost in the sauce that the AADC commander, some of the, yeah, it's nice to have, but we can just punt it off on others. I don't think we can do that, especially in a theater the size and the criticality of INDOPACOM.

And then the last one is, it's really a set of questions, I think. So it's my understanding that there's a C2 center that's to be built as part of the Guam defense system. If that C2 center is

being built to support a RAADC function for the defense of the Marianas Islands, that makes sense. If it's being built for something larger than that, something more than that, something more than defense of Guam, that's probably worth the discussion to understand what it is, what it's intended for. Because if instead it's like, let's say it's a JTF headquarters or something like that. Is it being built to house the other components that would go underneath the JTF commander? As an example on the air side, I mean, you're talking about an air operations center. Is that what our intent is? If we don't, then how is that JTF commander going to be adequately supported? Do we have to make sure that we establish command relationships back to the one AOC that exists outside of Korea in the theater, which is on Oahu? Are we moving away from a construct where command and control is going to be done from the one island where we've got the command and command and the four components all headquartered? I think that's a really important discussion. I think the last one on the question of a C2 center on the island of Guam is, are we going to make sure it's resilient enough for that environment?

We're defending Guam for a reason, because it's going to get attacked severely. And so we're considering putting a key C2 node on the island. Let's make sure that it's going to be able to last more than a few days. And it's not clear to me, maybe it is, and I'm just not aware of it, but it's not clear to me that that plan has got that fleshed out.

So I think those are a comment, a reminder, and then a set of questions about that C2 facility that are really important to the theater, as well as the relationship to Global Dome for America writ large. That's it, Riki.

[Riki Ellison]
Okay, Ty. Let's draw back on it. For this discussion, the intent of having that Joint Task Force Center there at a bigger perspective than the Marianas, and combining that with U.S. territory, and we're obviously going to defend Hawaii with persistent capability. How do we do this properly? Not with an expeditionary force that we're trying to evolve and develop with offense and defensive capability. How does that go forward? And the Air Force has yet to really contribute to land-based persistent other than the F-15s on that. How do you phase out with that? And then is that Golden Dome's responsibility?

[Lt. Gen. (Ret.) Jon Thomas]
Well, I mean, there's a lot to unpack in your question there. First on the Air Force piece. Yeah, I mean, the Air Force will tell you that they offer a critical air breathing element of integrated air missile defense. They also present the overall command and control. When they were part of the Air Force, now they're the Space Force, that service is providing sensing and communications capability in support of both fixed site and expeditionary air missile defense. So I think the Air Force has answer to, you know, how are you contributing?

I mean, personally, I think the Air Force missed the opportunity to pick up some of its own ability to do expeditionary air missile defense for agile combat employment, and that kind of water went under the bridge, and now they're relying on the Army to do it. And that's a discussion that is decades and decades old. In terms of like C-2, I think, Riki, that is, if that was an easy problem to solve, in terms of the ability to establish a GATF in the theater for a major Western Pacific fight, and then sort out all of the questions associated with roles,

responsibilities, JOA boundaries, that would have been solved by people far more intelligent than I, or even anybody on this call. Mark, you had a chance to solve it and you didn't either. So it's a difficult task. And my point simply is, is that if we're moving down that path, I sure hope that we've solved those problems that have bedeviled us for the last few decades. And if we haven't, then I'm concerned that we are probably expending resources and effort without solving the core problem, which is understanding the command relationships and who's doing what and who has what authorities. So that's a key point. I didn't touch on Hawaii, if you want me to, I can, but I think it's more central to Guam and GDS.

[Riki Ellison]
Yeah, and that's why it's been really covered by Golden Dome. So from your position right now, do you think the Golden Dome of America's responsibility is that defense, a persistent defense of it, on top of the expeditionary? Or is—it they don't have to do if the expeditionary is in there?

[Lt. Gen. (Ret.) Jon Thomas]
Well, make sure I understand what you mean by expeditionary. When you say expeditionary, if you're talking about forces, you know, air and missile defense forces that are garrisoned on Guam that are going to move forward, that's not part of GDA. They might contribute, there might be some unique circumstances—

[Riki Ellison]
But that's what I would argue. I would argue that the army's, missile defense stuff there is that maneuverable to go out and fight. They're built to do that. Why would you leave them on the island?

[Lt. Gen. (Ret.) Jon Thomas]
I think a commander needs to have the ability to make that decision. The question is, is it the commander that's responsible for overall GDA? Or is it the commander in the Indo-Pacific?

That needs to be thought through. But I'm focusing mostly on things that are in like VLS and stuff like that, that aren't leaving Guam. You know, those kind of things aren't going away. And they need to be—

[Riki Ellison]
We only have one VLS, Ty—.

[Lt. Gen. (Ret.) Jon Thomas]
Yep, yep there's a lot to kind of work through and think through on that. But I mean, just because something is expeditionary doesn't mean that it necessarily moves from its garrison site, if the most important thing for it to do is stay put.

And the defense design and the AADC and the other commanders need to make those risk-based decisions. Which could include, and this was my point earlier, is maybe if it's viewed as part of GDA, maybe they don't even go somewhere else in the Pacific. Or maybe they go up to Alaska. Or maybe they go somewhere in California. Is INDOPACOM okay with that? Perhaps not.

[Riki Ellison]
I think they got all their planes up in Alaska. They got a lot of planes up in Alaska that they would like.

[Lt. Gen. (Ret.) Jon Thomas]
There are. It's a long way away from the threat. But I mean, if you say that GDS is part of GDA, and especially if GDA contributes to GDS, you're going to have to get to this question of who makes the calls.

[Riki Ellison]
But Ty, we're so focused on Guam that the panel is, we got to discuss the entire Pacific for missile defense. And I just want you to lay out, last question, to lay out the Air Force's strategy on missile defense. Is it ACE? Is it moving around the theater, picking up landing strips, doing your mission, and pulling and going to another island to project power? Or do you need state- You can need both, but- Or do you need stationary fixed sites where you can load up like Guam, fly out, and do your projection?

[Lt. Gen. (Ret.) Jon Thomas]
There's two ways of answering your question. One is from an AADC perspective, and one is from a service component perspective. I'll take it from a service component perspective, which is the Air Force's intent to fight, fly, fight, and win in the INDOPACOM is maneuver. Okay? Where they can, they're going to move. They're going to keep airplanes off the ground as much as possible to keep them from being at risk. They're safer in the air.

However, part of that approach cannot only rely upon maneuver and passive measures. There's got to be some active measures that can pick things off, thin the herd that are inbound, because we eventually will be found, and we will be targeted, and there'll be some losses associated with that.

So that's the Air Force's approach, is to do- is to, you know, take it that way. If you answer it from the AADC perspective, that's a joint responsibility, and there are all kinds of fixed sites across the Pacific that have to be defended by that AADC. There are also a lot of maneuver forces that have to be defended, and that's all in that responsibility, and the AADC with the RAADCs have to make sure that it gets done, and we have to make choices. Some commander has to accept risk, and so it's an airman in that particular AADC role that has to make sure he's fully utilizing all of the assets available, whether it's sensing C-2 effectors to defend the list according to the combatant commander, or, you know, and I'll stretch it back to GDA, or to the overall GDA commanders intent.

[Riki Ellison]
All right, Ty, good. Thank you. All right, I'm going to turn it over to Mark on this, and there's been some great SM-3 movement, the container movement we're seeing out there in the Pacific, and Mark, you've got a good viewpoint on the whole thing, so give us your thoughts, please.

[RADM (Ret.) Mark Montgomery]
First, I'm just glad I got Charlie Flynn in the Navy.

So, all right. So, look, I'm trying to look at this end ways, means. So, these are slightly different ends, slightly different strategic level between what Golden Dome for America wants, and Golden Dome for Guam would be, and really for the Pacific. Golden Dome for America is generally defending fixed sites. Golden Dome for America, whether it's counter-value or counter-targeting, whether we're defending cities or defending key critical infrastructure or military nodes, these are generally GPS points that are known to the adversary. And so, it is a conceptually one type of defense network.

Golden Dome in the Western Pacific is, as both Charlie and Ty alluded to, a dynamic target set. Some things are fixed. The Yokosuka Naval Base isn't moving. Wherever our weapons stowage are in theater are probably not moving that fast. Some of our very large airfields where we keep a lot of our big wing aircraft are a known target. Now, things can move within that. Ships can get underway. Aircraft can do what's called agile combat employment and move themselves.

So, there's maneuverability elements to it, but it's a mix. It is not purely fixed targets. And certainly from a naval perspective, once they're out at sea, they're definitely moving. And from an airborne perspective, the aircraft up in the air are constantly moving. I think the Army is a little, they would say they're maneuverable and not fixed, but within targeting cycles from China, they're pretty understood.

So, you have to have two different types. There is an acknowledgement here that your system has to cover two different types of strategic endpoints. That doesn't mean it's not the same system, but you just have to acknowledge that up front. And it will drive some of your risk management.

So, that's the end. The ways are sensors, shooters, and an integrated network that brings together both command and control and situational awareness. An understanding of the threat and guidance on how to deal with it.

Historically, and I think going forward, that needs to be something, whether the Golden Dome resolves it or not, it needs to be managed by the Air Defense Commander, the ADC, generally the Air Force in the region. That doesn't mean that there aren't components being run, regional areas being run by Navy or ground units. But overall, you can have an Air Defense Command that brings all this information together.

I think Mike Guetlein's made it really clear that understanding how he does command and control and how he does an integration of the sensor and shooter networks is a top priority for him. The Department of Defense, prior to Golden Dome's initiative, had what's called CJADC, or the Coalition Joint All-Domain Command and Control System as a priority. And we need to still have it as a priority. And those two things need to be, to a great degree, interoperable, if not, in fact, being the same thing. So, that's critical.

Everything else we're going to talk about, the sensors and the shooters, become inherently more valuable when fully integrated. The Navy, we do lots of things stupid. We do a handful of things smart. When it comes to the integration of sensors and shooters, we can go back 35, 40 years of engage on remote and the transferring of data between sensors and shooters. Something called Cooperative Engagement Capability has been around since the

late 1980s, early 1990s, and really fielded on ships since the 2000s, heavily, and on our Hawkeye aircraft. I say this in the context of it's absolutely doable. We've then integrated the Air Force, and the Air Force developed it on their own, has integrated with the Navy. And I think to some degree, the Army is also becoming part of that every sensor, every shooter network. So, look, this is doable. I just want to put a pin in the point that you better get that right.

So, when it comes to the sensors and shooters and with integrated system, then you come down to means. "How do I do all these things that we're talking about?" First, Charlie, God bless him, talking about buying new things and discovering new budget for the Army, that is not happening.

I'm going to tell you right now, our current budget is 2.9% of GDP at $893 billion. Next year's budget is $901 billion, just a little $8 billion bump, plus about $123 to $153 billion in reconciliation money. So, about 2.8% of GDP plus a 0.4 one-time bump to 3.2%. The 2027 budget, the one they're working right now, is starting out at $900 billion, 2.7% of GDP. I'll just tell you, we're on a declining budget. And here's an ugly little trade secret. Defense industrial base inflation is higher than actual inflation. So, our dollars go less. If you're flat, you're really losing. And if you're gaining 2%, you're kind of losing on your budget. And we are in the flat to gaining 2% area. So, we're in real trouble, Riki, in terms of the amount of money we have. So, there is not a pocket.

Now, do I think Golden Dome will get money? Yes. Do I think they're going to get as much as Mike Guetlein needs after the initial $25 billion? No. So, he's going to be competing in a budget environment with services that have no desire to give him a base in their budget.

So, the idea that money is going to move around—I'm not saying that the Army is the loser in the budget battle. I'll just say that in the context that the Pacific remains the pacing threat, in other words, the requirements-driven portion of the threat, the threat-driving requirements for the services, the war with China is an inherently air maritime campaign. That doesn't mean there's not a lot of cool Army stuff going down. There's going to be long range strike, there's going to be logistics, there's going to be air defense—I hope—all that going down for the Army. There'll be a little bit of movement, but we're not doing an invasion. We're not putting boots on the ground anywhere held by the adversary. That's not what this is about. The Navy and the Air Force, there's no big trough for them to feed out either. They're not getting a big—but I'm just saying cold turkey. I'm not sure money's going to the Army.

I say that in the context of, he then wanted to describe a lot of things that are necessary. I don't know how you do necessary things without increased budget line unless the Army takes savings elsewhere. I have not heard that discussion going on in the Army about where they're going to take savings to be able to fund what is a very important but still not primary Indo-Pacific mission.

To me, the other big means part is you already have money in Golden Dome. So what we have to do is figure out how can that space-based system be enhanced to make sure it's covering as much, as Ty properly said, of American sovereign territory like Guam in its initial concepts. In other words, you have to build the space-based elements to make sure that

you're covering more than just the continent of the U.S. You already have some challenges with Hawaii and the string coming off of Alaska. Add in now that probably Guam is an important element of that.

The real budget implications of this are what is the extra terrestrial—when you have your space-based primary element within Golden Dome, it's significantly enhanced by terrestrial-based systems, mostly sensors and shooters. But what part has to be given forward to be used? Some is clearly maneuverable air defense to support the ACE concept, the Agile Combat Employment concept of Air Force units. Clearly, Navy ships need to continue to protect themselves, things like that. But in my mind, we're still going to need some specific radars that help cover the area. Those radars could be in CONUS or in Alaska, painting a picture of what's going on in the Western Pacific. We have that capability. We're probably going to need—and I've said this many times, Riki, and I know I'm eventually going to be proving it. It's going to be like IFPIC. Eventually, you're going to have to say I'm right. But aerostats and dirigibles are going to have to be part of this. I was in Israel last week, looked at the aerostats. I get one of them got hit while on the ground. It's still a wicked good system. It's so good, the Poles have been buying it for their use in Eastern Europe.

And then we are going to need, I think the Air Force is going to have to figure out or probably Air Force, long endurance UAVs to support some of this mission alongside the dirigibles and the radars. I think I'm hesitant to say committing a whole bunch of Wedgetails or E2Ds or whatever we have for AMTI to this specific mission since they're needed badly for other offensive missions. But long range and long endurance UAVs.

And then finally, you're going to need, we still need to figure out, we'll get launchers. We'll have shipboard launchers, air launchers, lots of aircraft that can do great work and ground-based launchers.

What we still have not cracked the nut on, Riki, is a low-cost interceptor in the defense mission. Every interceptor, when you look at the offensive mission, like do something that goes Mach 5 and lands 3,000 kilometers away, look at offensive one and defensive one. It's about a four to one cost ratio.

In the shorter range ones, it's even more of a cost differential of 10 and 15 to one. And you think about our ability to drive down cost on low, to get to low cost, long range anti-ship cruise missiles and land attack missiles. We're starting to do that at a quick pace.

I don't see any of that happening on the defensive side. And if we do not draw down the cost of defensive intercept, we're going to be in trouble. So that's the means.

The means is a declining budget environment, figuring out how to extend the space base to meet from the Golden Dome of America to meet Golden Dome of the Pacific as well, and then enhancing it with some terrestrial based systems with hopefully a lower cost interceptor. To me, that's how you solve this problem. I'm not interested in whether it's a Navy system or an Army system or Air Force system that does it.

We just need to meet those general precepts so that we have the right systems in place. I know that's kind of an ends ways means argument and not a buy Raytheon instead of

Northrop Grumman or Northrop Grumman instead of Raytheon argument, but that's kind of where I sit right now, Riki. Thanks.

[Riki Ellison]
Okay. Mark, going back to the big persistence versus expeditionary, and you said it right, those services are going to be focused on funding those expeditionary capabilities and trying to link into Golden Dome to take that money to do that. We go back to persistent, you said it correctly, the spaces and persistence, but the number one entity that we have in the nation to build persistent missile defense is MDA.

That's what they do. They built that system, they've got it integrated, and they don't seem to be in the picture here in integration with everything, and especially with Aegis. What they've done, and you know it from 2003 to build the SM-3 up to do what they've done a little bit by Wayne Meyer to where they're at today, and we're putting them in containers.

That's the solution. I just don't see Golden Dome's got a lot of chiefs, but they don't have Indians, and the Indians are with MDA in this specific mission of persistent defense. That organization is supposed to do that.

[RADM (Ret.) Mark Montgomery]
No, I agree. Missile Defense Agency is critical, and I have a lot of respect for the engineers at Missile Defense Agency. I have a lot of respect for what the MDA did for the Navy in making Aegis ballistic missile work.

I would love to think the Navy would have had the vision and the fortitude to fund Aegis ballistic missile defense on their own. That's what my heart says. My brain says, no effing way.

It would have been seen as an excessive mission not yet assigned to us, and we wouldn't have done it. MDA deserves a ton of credit for what they did in pushing the Navy, helping fund the Navy, funding certain Aegis loads, the baselines 9 and 10 particularly, but also the development of SM-3 Block 1 and Block 2. So, all props to them.

But you're right that they seem slightly missing in action in the discussion going on right now. I have to believe that General Guetlein is going to fix that. MDA will be brought in, and over time, I don't know who will be called the architect for Golden Dome, but the engineers that support the architect are going to come from MDA.

That's the natural place to go. It's where they're at, and long term, they'll get it. I will say, if I could go back in time and tell MDA 15 years ago, here's a mission no one's telling you to do, but you ought to get good at.

It's the low cost intercept. It's like for everything you develop that costs $10 million or $20 million, or even now with some of the SM-3s, $30 million, or GBI's $90 plus million, develop something that's at the low cost end, that's at the 0.8 probability of intercept end, so that the government has a choice, so that the department has a choice. Because right now, our only choice is which one of these expensive arrows would you like to use today?

Would you like to take some risk with using two of these cheaper ones? That doesn't exist. But outside of that, I think MDA has been and will be an important part of our missile defense.

[Riki Ellison]
Do you think they're the best to do integration with all these services? Because that's what they've been doing, right?

[RADM (Ret.) Mark Montgomery]
Yeah.

[Riki Ellison]
Or does Mike need to create a new integration?

[RADM (Ret.) Mark Montgomery]
No. The words “Mike need to create” don't go along with the rest of Mike's writ, which is to get stuff done now. Look, MDA may need some mid-course guidance, to use a missile defense term.

But then given the mid-course guidance, I would use the tools available to you at this time to get the mission done. So look, I agree with you, there's probably frustration with MDA in some quarters. I'd say, yep, noted. It's what we have. Let's figure out how to use it right. Give it the mid-course guidance and get off and running.

[Riki Ellison]
Okay. And then to your point, I'm going to go right to this thing, this container here, as that opportunity. Because basically the Japanese are buying two boat ships where they're putting an organic radar on the ship with VLS-128.

But putting these things on barges, putting these things on trains, putting these things on trucks, and having cheap capability in there, that doesn't require the discrimination or the target information in it, and can get passed to it once it gets out. That seemed to be where we should go, where we are going. Any comments on this?

I know when we had the last one, Mark, Tom Drugan said, you got to position it correctly, and it takes a lot of time to get to the deciding of an SM-3 correct before you can engage with it. Any thoughts on that?

[RADM (Ret.) Mark Montgomery]
Well, I'm not going to argue with Tom Drugan about SM-3 specifics, being that he's a knowledge expert. And I suspect he's right. I'll also tell you that when you move radar, anyone who's had to sit around while you've aligned a TIPI-2 radar knows that it's not really a maneuverable system, or it's barely transportable.

[Riki Ellison]
But the containers are.

[RADM (Ret.) Mark Montgomery]

But you then have to have knowledge of container versus a specific understanding of containers, three dimensional, XYZ axis positioning versus the launcher, particularly versus the radar, but also the command-and-control system. So he's right.

There's a little bit in that. I'm not opposed to containers. I'm not opposed to how you launch a missile.

And I would like things to be cost effective. I have found that like a Mark 41 VLS launcher, you can get 32 cells for $38 million or so. That's pretty good.

I would think about savings there. Look, if you're saying to yourself, “boy, my system is vulnerable.” I have a single point failure.

Your command and control network is probably going to be your single point failure. Your launcher system might be, your radar might be, your command and control might be. They're all single point failures.

I wouldn't sweat. You're either going to defend yourself or you're not. I'm not trying to overreact to that. But I also recognize that there are advantages, particularly on the offensive side, to having these containers out there.

[Riki Ellison]
Do you think we can mix offensive and defensive weapons in these things?

[RADM (Ret.) Mark Montgomery]
Well, if you pay for the high end version that has gas management, sure.

[Riki Ellison]
And that wouldn't be Golden Dome then, right? Yeah.

[RADM (Ret.) Mark Montgomery]
But that's also not your grandfather's trailer, right? That's your $8 to $12 million trailer, right? So, I mean, be careful when you buy that.

[Riki Ellison]
Hey, Ty, do you have any questions for Mark?

[Lt. Gen. (Ret.) Jon Thomas]
I always do, but I'll save them for another time. I assume we got some questions from the audience or whatever.

[RADM (Ret.) Mark Montgomery]
He just asked the one question from the audience. So, Riki, you want to give Ty a minute to wrap up, then me a minute to wrap up?

[Riki Ellison]
Yeah, yeah. Go ahead, Ty. From this conversation today.

[Lt. Gen. (Ret.) Jon Thomas]
Yeah, I think it's really good that MDAA is having this discussion now about, you know, that we came to Golden Pacific. But we can't lose sight of the criticality of integrated air missile

defense in the Indo-Pacific. Be humble enough to realize it's not solved and Guam Defense System is only one part of it.

And then third, make sure that we understand that GDA, its development, how we go about developing it and then implementing and employing has to look at Indo-Pacific IAMD, in particular GDS, as a significant part of it. If we don't make sure that we keep all of those things in mind as we move forward on expending a massive amount of national treasure and time on getting Golden Dome for America right, we're going to miss opportunities and we're going to create risks.

[Riki Ellison]
Ty, before you—

[Lt. Gen. (Ret.) Jon Thomas]
Go ahead.

[Riki Ellison]
Talk to me on JFN versus Golden Dome network. I mean, do they have to be one or the other or are they combined or do we parallel that? That's offense and defense.

[Lt. Gen. (Ret.) Jon Thomas]
Well, I mean, Mark touched on that. It is still joint command and control. So if you take it from the principle of “you want to have a system that can make sure that information that you have from one sensor or one part of the theater can get to others, because it's important that it informs them, maybe even helps them with their own targeting solution" then you got to share.

And oh, by the way, if that sensing information gives you the ability to execute offensive operations or to support, you know, maneuver that's not necessarily associated with IAMD as we think of it in terms of launching an effector, all of that stuff is critically important. So the idea that we would consciously bisect and go, hey, this command and control network is for fires, and this command and control network is for IAMD would be a huge mistake. How you actually architect it, not easy, I'll fully concede that, but we shouldn't make a deliberate effort to keep it too separate.

[Riki Ellison]
Thanks, Ty.

[RADM (Ret.) Mark Montgomery]
All right, Mark. My final words is this, there's going to be a constrained budget environment. Most of us know that the final bill on Golden Dome is big.

And there's an argument, you know, if it's a presidential priority, it could likely still get funded. That means everyone else is going to have to, you know, be more efficient in their budgeting. I am not expecting another reconciliation this year.

And if there was one, I wouldn't be expecting a defense plus up in it. So the first task out for everyone is for Roger Wicker and Mike Rogers and Jack Reed and Adam Smith, the chairman and ranking of the HASC-SASC, to get a plus up going in the DoD authorization. And that's

going to be hard because it's going to run into a requirement by the Democrats to plus up the non-DoD, and that will run into Republicans who don't want to do that after all the spending in the last administration on those issues.

Political stuff that really means our budgets may be frozen where they are. With that in mind, and Mike Guetlein, being in theory, the first person to get to eat, the services are going to really have to figure out how everything we just said gets done efficiently and effectively. So a lot of you want to rely on Mike Guetlein's work.

So it's important that CJADC2 be an important part of Golden Dome's command and control, whatever they use as command and control, if it's not in fact CJADC2. And like Ty, I'm sure, I believe in the "C" in CJADC2. In other words, the whole time along, making sure your coalition partners are part of it so they stay aligned and integrated with us.

So I'm excited. Ricky, there's going to be an interesting missile defense year next year as we go into this. And there's going to be, I think that when they do the budget reveal in, say, February or March, the DoD budget reveal, there's going to be some disappointed people in there. And then I expect Mike Guetlein will have most of the money he needs.

[Riki Ellison]
Thank you, Mark. This is a great discussion. And really thinking about the strategic position of this, because Mike and GDA, they got to focus on persistent missile defense capabilities.

And the number one thing that needs to be done is that data share. And you said it, right, Ty, you said it, can't be separate. But eventually, that's going to end up in one cloud or a bunch of clouds with one data, because the data doesn't care whether it's offense or defense.

That's what I think Golden Dome is really going to get to at some point for across our services. And then it's able to go out to its willing partners that would contribute. But it's still focused, it's got to be persistent missile defense, and certainly space-based in as far away as you can get it, and then start bringing it all the way back in and not be using or relying on expeditionary forces.

I think the services are going to go fund those. I don't think Golden Dome needs to be doing that. They need to integrate it all.

And the big person that's not in the picture right now is MDA. So they got to be enabled to be able to integrate all this together. So good discussion.

I appreciate your time and effort to come on this. Thank you very much.