# Mr. Riki Ellison: (Silence).

### Mr. Riki Ellison:

Good afternoon, ladies and gentlemen. Here from a great day in June in Virginia, Alexandria. I welcome you to our 30th round table discussion. And today, we're going to talk about missile defense and the great power competition. I'm Riki Ellison, I'm the founder, the president and the chairman of the Missile Defense Advocacy Alliance. It's about 20 years old today, right around there. I've been involved with missile defense 40 years, back in 1980s when I first got involved. Our mission is to educate and advocate for missile defense because we believe firmly that it makes our country safer and our world safer. And we're seeing that in play today. We saw what happened in Israel and the magnificent ability of having a missile defense system in place to be able to defend the population and prevent a war that could have happened if we didn't have that.

### Mr. Riki Ellison:

Today's discussion is going to be a great one because we're not going to focus on our normal missile defense threats that missile defense has been built to defeat; the North Korea threat, the Iran threat, the Hamas rocket threat. We now want to engage a conversation and a discussion on the near peer, the Russia, China, and how missile defense is vital to that strategy, vital to the deterrence of both of those great powers and an ability to compete. And we're seeing weapon systems like the hypersonic glide that is coming out of those two countries that threaten US national security, that threaten our European allies, that threaten our Asian allies and in how we play into that. And we've got three great speakers here today. Obviously, we've got the best in the world today on Aegis Missile Defense.

#### Mr. Riki Ellison:

He's a program executive, Rear. Adm. Tom Druggan, and he's going to help you with understanding the development, the architecture, where we're going to go with his ability to fulfill the war fighters requirements around the world. A difficult position to be in, but one that's vitally important. We also have former retired, Mark Montgomery, who comes to us in a couple of ways. He was the former policy director for John McCain on the Hill. So he's got that whole understanding, and he was the three, the head of operations for the Pacific. So he's going to come with a good perspective where he thinks we're challenged in the Indo-Pacific arena and how we can best apply missile defense in there. And obviously the big question is the [inaudible 00:17:54] position, which is strategically right in that role to be able to set that pace and deter and defend some of our power projection spots there.

#### Mr. Riki Ellison:

And then when we go to the opposite side of the world to our East Coast. We've got a very great guest, highly, highly valued and esteemed, and that's former Admiral Jamie Foggo, who was the commander of Naval forces for Europe and Africa. So he is coming to us from that perspective and now we're going to get to hear from him, and we're just listening to President Biden and President Putin wrapping up their talks. So that'll be interesting to hear that different perspective coming from that side of the world on how we best do that. So that's kind of what we're going to do today. Everyone's going to speak maybe 10 minutes each, and then we have our board member here, John Rood, will be asking the questions. He's a former under secretary so those questions will probably be pretty pivoting and right in a good position to do that. If you have questions, you can do it on the telecast, or you can email the questions to questions@missiledefenseadvocacy.org.

### Mr. Riki Ellison:

So that's our agenda. And I'm really honored to have a great friend, Tom, to be with us. He lives and breathes this, and he's just come fresh from one of our world's greatest integrated allied missile defense exercises in the European theater for Aegis Ballistic Missile Defense. He runs the Aegis Ballistic Missile Defense, he's producing products in terms of all our baseline nines and moving that up every year, major products going into our war fighters on both sides, and he's developing the sensor aspect of it and he's probably the guy in charge of creating that study around Guam and what those possibilities are. So it's great to have you here, Tom, and I really appreciate your thought, your insight and your articulation of this very complex subject. And I want to lead into you right away in the difference between a homeland-

### RDML Tom Druggan:

... Missile Defense Advocacy Alliance and the MDAA at large. Happy and thrilled to be here with my fellow panel members, Admiral Montgomery, Admiral Foggo. This is an important topic, and thanks for continuing the conversation. As you know, our opportunity to get together in person and have these kinds of discussions is still pretty limited. So being able to continue the conversation now online with your viewers, and I hope your viewers find this interesting and intriguing and thought provoking as we go through today. Thanks for the opening question. Missile defense really started back in World War II with Kamikaze pilots from the Imperial Japanese Navy going after US Navy forces. They were manned cruise missiles, but still a missile defense problem. As well as over on the European side, you had the Nazi V-2s that were reigning on England, V-1s and V-2s that were ballistic missile threats at the time with no BMD defense at all.

### RDML Tom Druggan:

So that's really the Genesis and ever since then, the threat has significantly progressed. Today, we're really into three domains on missile defense. One is cruise missile domain, highly tactical, and really within the purview and responsibility of the services. Then we get to hypersonic missile defense. This is in the upper atmosphere where high speeds can be achieved, but still you can have some aerodynamic control of your missile as a threat missile. That's actually fairly new and emerging. We did quite a bit of work as the United States back in fifties, sixties and seventies, but we never weaponized the technology. We never took it to that final stage. Well, that's changed. Other countries in the world have, and that just demands the establishment of a hypersonic missile defense capability, but that's an emerging effort.

#### RDML Tom Druggan:

As I referred to, the ballistic missile defense has been prevalent since World War II and certainly was a feature of the Cold War and that has continued on until today, and that's ballistic missiles. So the difference between the three is cruise missiles in atmosphere, lower altitude, high aerodynamic control, but speeds that top out about Mach 3.5, still tough problem. Hypersonic missiles, upper atmosphere, Mach seven plus, amazing kinematics, super tough problem, and emerging. And then ballistic missile defense, they're in space. They travel most of their trajectory in space before they reenter the atmosphere and seek out their target. And so if we're going to defeat that target, we can do it in the boost phase when it's going up, extremely difficult. [inaudible 00:23:06]. There geometry really matters. The speed of our weapons matters.

#### RDML Tom Druggan:

You can go after mid-course. We have quite a few efforts in defeating the ballistic missile defense threat in mid-course and then finally in terminal, and we have capability there as well. So those are the three

domains, but as you alluded to, there's actually a difference in policy from a policy perspective from national homeland defense and the regional defense of our expeditionary forces; Navy, army, Air Force, as they're overseas protecting our friends and allies and deterring and defeating the threats that arise. That policy, the division is actually really important when it comes to missile defense. Again, cruise missile mostly in the services lane. That's inherently expeditionary for the most part. For instance, the cruise missile defense of individual ships or carrier strike group operating overseas as forward presence and to reassure our friends and allies.

### RDML Tom Druggan:

In terms of hypersonic missile defense, there is a difference. Defending the homeland against hypersonic missile defense based on our policy today would be different than our regional, and specifically as I talk through that, might not make a lot of sense. But we have to recognize that a hypersonic threat could be conventionally armed or could be nuclear armed. And so once you get into the nuclear realm, we really are focused on strategic deterrence as our policy tool of choice in the United States against countries like China and Russia that have inventories of these emerging weapons. And then finally, we get to ballistic missiles. Those are typically intercontinental ballistic missiles, ICBMs. Those are typically assumed to be nuclear tipped when it comes to attacking our homeland, the United States of America. But in a regional context, they would also be conventionally armed.

### RDML Tom Druggan:

And those are called short range ballistic missiles, intermediate range ballistic missiles, and as a medium or any sort medium and intermediate range ballistic missiles in a conventional sense. So we can actually have a same threat that's treated differently if we're overseas on a regional conventional conflict versus defending the homeland from a nuclear attack. So that's important. I've seen good people really have pretty vigorous debates. One was talking regional context, the other was talking a strategic deterrent homeland context. So it's important to establish exactly what we're talking about. Today, I'll be talking about regional missile defense in a commissional context and really the capability that just BMD sea based weapons systems delivers to the Navy.

#### Mr. Riki Ellison:

Tom, just getting at that, and there's a gray area right away, which is Guam, which is a US homeland capability, but it's forward operating out front of the homeland so that defense is very challenging, both policy-wise I would assume in what you're trying to do. Plus it would seem that the near peer gives you a 360 position of a layered attack that you would have to have an architecture to be able to do all three of those systems that you're talking about there. And I know we've done a great job with the carrier fleet, what you've done, because I think that's driven missile defense. You're the only one of all the services that's done cross domain and layered 360 defense. So how do you think missile defense now fits against the near peer in that kind of gray context, or how do you play in that with that-

#### RDML Tom Druggan:

So actually, it's even harder than what you described. So first we'll deal with the technical and the threat, and then we'll talk about policy. So from the technical and the threat side of the house, it's not just the fact that we might be facing a 360 degree threat, whether it's Guam or a carrier strike group from cruise missiles or hypersonic glide vehicles, right? Which is the emerging threat on the hypersonic side. The real challenge is it's not going to be one, it's going to be a whole raid and it might be a multi-access attack. Folks, that's really, really difficult and challenging problem for us. We have lots of good

work to do ahead to sharpen our capability, to be able to take on these larger raids that are presented in a scenario like that. So not just 360, but also raid size and large raids, those are demand signals.

### RDML Tom Druggan:

That's why we do need layered defense. If you wait and try to raid all at once, defeat a raid all at once, you may very well subject yourself to having leakers and that means lost people, ships, capability, which is not my duty. My duty is to protect and defend. So I need to deliver that capability. So we really have to build in the layers. The layers are really important because you want to be able to attrit a threat raid, multiple hypersonic glide vehicles, or multiple cruise missiles or multiple ballistic missiles, attrit it over time and space, battle-space so that you can make sure there are no leakers. So that's the technical and the threat challenge. That's the combat system capability that I'm challenged to deliver.

#### Mr. Riki Ellison:

Are we on top of the capacity on this? I mean, that seems to be a big mission there-

### RDML Tom Druggan:

It is. So I work closely with the Navy for them to establish what they think their requirements are for the different type of capability that I deliver. And in fact, the capacity that we're delivering on top of the capability, just the capacities is great. We have 40 BMD, ballistic missile-.

PART 1 OF 4 ENDS [00:29:04]

### RDML Tom Druggan:

... is great. We have 40 BMD, ballistic missile defense capable ships today. And 20 of those are our highest Integrated Air and Missile Defense ships, Aegis baseline 9, baseline 9 Charlie in particular, which is eye-watering IMD capability. And by 2025, we'll have over 60, so Navy investment in this regard through the Aegis Modernization Program is impressive. And then, that's just the modernization to create the base and the foundation. And then I come in from the Missile Defense Agency and add particular pieces to enhance that capability and give it a ballistic missile defense capability.

#### RDML Tom Druggan:

Now, when we get to policy, policy on Guam, I would say that that is actually front foremost, not foremost, but an important element of the current administration's discussions on the path forward. Congress has a pretty good debate going on there. You have a demand signal from the combatant commander in Indo-Pacific as well. That was previously Admiral Davidson, and now Admiral Aquilino has testified to that. So, there's a good, healthy national debate on what's the right way and right form to protect and defend the territory of Guam, and then against what threats. And then, on top of that is well, what parts have to be in place with? That's all work that's being done now, and I think will extend also beyond this year and into the next year.

#### Mr. Riki Ellison:

I think, as you know, what was announced earlier this week that there's a Missile Defense Review.

RDML Tom Druggan: That's right. This transcript was exported on Jun 17, 2021.

Mr. Riki Ellison: That's going to look into that policy.

RDML Tom Druggan: It will absolutely be part of that.

Mr. Riki Ellison:

And go through that, I think it will be coming out in February next year. And you look at that and you also look at your budget, that Admiral Hill was on the Hill this week, and last week at the Senate, where you've now gotten all these new mission sets. Like you just said, we're looking at the near-peer, now that adds a lot of complexity and capacity. And it seems like you've gotten a lot more missions, but your money has dropped down a little bit to fulfill those missions, so it looks like a little bit of an overmatch right now on that situation.

RDML Tom Druggan:

So, I won't be dragged into the budget debate. Nice try, Riki.

#### Mr. Riki Ellison:

I just want to let everybody know what the challenge is, because adding this thing on without adding the extra funding or without adding policies, it's going to be difficult for you to be able to give the war fighters what they want.

#### RDML Tom Druggan:

And my job will be to be very clear what can be delivered, what I can deliver with the resources I'm provided.

Mr. Riki Ellison:

Yep, okay.

RDML Tom Druggan:

And that's on behalf of every taxpayer in the United States.

Mr. Riki Ellison:

Yeah, and we're trusting you to do the right studies and the architecture to be able to give us the best systems. Correct? That's what you, not the war fighters-

#### RDML Tom Druggan:

Yes, the Missile Defense Agency, Vice Admiral Hill, our director, very focused on the threat. All right? Technology is great, but it's got to start with what technology or what capabilities do we need to take on the threat. So, we're, I would say, laser-focused on what is the threat, and what's our capabilities, limitations, and what do we need to do to protect and defend?

Mr. Riki Ellison:

Okay. Thank you. Thank you. We'll move on now. That was very good. To Mark Montgomery. He's our new board member of MDAA. He's just one of the smartest guys on missile defense in the world from that. Like I said previously, he has been Senator John McCain's policy advisor for the SASC. He has been brilliant in the Indo-Pacific arena. He's also spent time in Europe, as well there. So, Mark's been very close to this issue. As we can speak, it'd be great to get your perspective, Mark, on these particular discussions that we're having on the near-peer threat and how best we can handle it within the structures that we have. Mark.

### RADM (Ret) Mark Montgomery:

Hey, thanks, Riki. Great to be here with MDAA. Great to be here with the department head who served with me when I was XO on Elliot, Tom, for the good Captain Graber. That was a lot of fun.

RDML Tom Druggan:

It was great.

### RADM (Ret) Mark Montgomery:

And great to be here with Admiral Jamie Foggo, a fellow flag war room for about seven years together, so real old home week. If it's okay, Riki, I'm going to concentrate a little bit on Asia and China.

Mr. Riki Ellison:

Sure.

### RADM (Ret) Mark Montgomery:

First, what I'd like to do is talk about what we need when we think about fighting in Asia or fighting a near-peer conflict with what would obviously be China in Asia, what the budget delivered, and where's there some work we can get done. There's good news and bad news stories in there. I know that we tend to get excited about the bad news stories, but there's good news stories in there, as well.

#### RADM (Ret) Mark Montgomery:

So what we need, when I sit as Indo PACOM J3, we probably went through three or four iterations of the war plan, but also lots of exercising. Over time, in my brain, I started to think, "Hey, there's generally six things we need." The first thing, and this is unique, this is different than discussing Russia. This is about confronting a country like China. Obviously, what you're really trying to do is build a capability so the Chinese see it and go, "A kinetic solution is not the right way for us," and effectively deter. But then, you also want to have the actual capability and capacity to defeat them, should China make and ill-regarded decision.

#### RADM (Ret) Mark Montgomery:

So, the first thing you think of always was you got to have the ability, you have to have the launchers, the weapons, the systems, launch platforms, and missiles to really destroy the PLA Navy. I think former Undersecretary of Defense [inaudible 00:34:41] once talked about, "What does it take to get rid of their Navy in 72 hours?" I don't think we can drive it to that metric, but we really do have to have the submarines with the Mark 48 ADCAP torpedo because that's your number one tool. As a [inaudible 00:34:53] officer, happy to say that I really think that's the key.

## RADM (Ret) Mark Montgomery:

The number two tool is Air Force. It's Air Force B-1's launching a system called the Long Range Anti-ship Cruise Missile, and then maybe Naval aviation with F-18s launching the same weapon. Then third and least desirable, surface ships hitting in kind of close, mixing up and launching their own weapons systems. So, those kinds of launching platforms, that's the first step you need. The second step you need is the overhead imagery, both resilient and redundant to continue to target that and provide your firing quality solutions to all those launch platforms I just mentioned. That's so hard to maintain, but if you can maintain that second step, and historically that's been something the United States was uniquely good at.

## RADM (Ret) Mark Montgomery:

The third thing you need is there is a limited need to strike ground targets. It's not like we'll hear that you need in Europe, with Kaliningrad and lots of Russian target sets. But you still have to take care of the seven little military bases they've built on non-standard features out there. So, there's some land attack requirements. A missile weapon system called JASMER is great for that. Some of the same launch platforms I just mentioned can launch all those, the aviation ones.

### RADM (Ret) Mark Montgomery:

The fourth system you need is one more missile defense starts to pre-bid and that's you have to be able to temporally support those assets, from the moment that they are exposing themselves and launching and doing things, you have to have that kind of temporal maritime, almost dominance in a geography in a time. That involves a lot of different disciplines, anti-submarine warfare, anti-surface warfare, but also air defense, and critically, missile defense. When you think about it in that light, you think about the aircraft carrier. How do we defend the aircraft carrier during its launch cycles, when it's exposing itself? The Navy's worked really hard with MDA over the years to develop that Aegis BMD capability and capacity. We talk about it a lot. It's probably the most expensive single line over 30 years in the Navy. As a carrier strike group commander operating in that area, there's a risk. You wouldn't go out there without getting all your affairs in order in a combat situation. But on the other hand, it's a reasonable risk for war fighters to take, because the Navy is invested in that.

### RADM (Ret) Mark Montgomery:

There's another mission in there that's not very missile defense oriented, and that's about your ability to seek control around blockades and counter blockades around Taiwan and down in Singapore area. But the Navy, you have to invest in that. So that's another bill on the Navy and the Air Force in doing that kind of thing.

### RADM (Ret) Mark Montgomery:

The last one is another big missile defense weapon, and that's the logistics and force protection for all the ground bases that support all those missions I just said. That's where cruise missile defense, ballistic missile defense, hypersonic missile defense, all the stuff that Tom's just went through, all those layers of integrated air missile defense come in. There's also logistics support in there. There's refueling aircraft, refueling ships to go to that. That is a really big bill. It's the least glamorous in many ways when the services think about this, yet the most important. Set logistics, and force protection involves a ton of missile defense, and we'll talk about the defense of Guam in a second, but that's it. So, those six big missionaries have two thick lines of missile defense in it.

## RADM (Ret) Mark Montgomery:

So, you fast forward now, and look at the budget that just came out. The first thing I'll say is lots of complaining about the Navy budget, and sure, I think it would've been nice if the Navy had actually grown at the cost of inflation and everything. But for the cuts that happened, overall, I think the Navy did okay. But most importantly, they bought three things that matter the most to the Navy in that little war fighting thing I just discussed. The first two were Virginia class submarines, and the third one was a TAGOS, or a ship that looks for submarines at longer distances. I have to be honest, those are the three most important things that I wanted to see in the budget. They're in there. There's lots of other things that could be improved, but I would say that for the Navy.

### RADM (Ret) Mark Montgomery:

When I look at ballistic missile defense, it's interesting. You mentioned it was a cut, but it's a weird cut. It's 8.9 billion. Last year the budget that came in was 7.9 billion. It then got a 1.3 billion increase from Congress to get it to 9.2 billion, so I think they're starting at a better place. Based on the studies that you and John Rood and I have been talking about a lot recently, it has a pretty good R&D versus procurement, about 7 billion R&D, about a billion plus a little bit in procurement. So, I'm kind of glad to see the R&D driving. That's what you expect MDA, that's their calling card. Good stuff.

### RADM (Ret) Mark Montgomery:

There's a good split in there between the ground mid-course missile defense, about 3 billion, about a billion and a half for Aegis, about half of that is procuring, I think, 40 SM-3 Block IBs and maybe eight IIAs, so a total of 48 vessels. And then, THAAD gets a little under a billion, which includes, I think, about 18 THAADs. The one number in there that makes me uncomfortable is the 77 million for the Guam defense. And that's because the PACOM commander in a congressionally mandated report called, I think, the section 1251 or 1253 report, reported back that, "Hey, I recommend about 350 million being put against the defense of Guam." There's about 77 million for study. I think there's another 40 million for some initial procurement. It's hard to understand the exact meaning of it, but there's another 40 to 50 million in there, but it's about one third of what was requested.

### RADM (Ret) Mark Montgomery:

I think it's important that we understand that the defense of Guam is going to be a complex, expensive thing, more expensive than anyone would say out loud right now. Like, you'll hear someone say, "Well, an Aegis Ashore should be about 1.4 to \$1.7 billion." I'm thinking the defense of Guam's already going to be 3 to \$4 billion. Because it's going to ask for some dis-aggregated systems that aren't part of a traditional Romania or Poland Aegis Ashore site. It's going to be more than that. It's going to have offensive systems probably layered into it. I just think it's going to be a 3 or \$4 billion investment, and the sooner we figure out what it is, the right way to do it, and how to procure it effectively, the more efficient we'll be. I'm a little worried about letting this backlog up 2, 3, 4, 5 years.

### RADM (Ret) Mark Montgomery:

The final thing I'll say on this is the defense of Guam is not really an optional thing. I think Admiral Davidson said this pretty well. It's 175,000 US citizens. In the end, we have a requirement to defend this. It's certainly under a significant 360 degree cruise missile threat, a significant IRBM, MRBM threat from China, so it's going to see a lot. I just, in my mind, you certainly can't predispose the answer, but Aegis Ashore has demonstrated to me it has the ability to expand and meet capacity of the threat. Whereas I worry about some of the other systems kind of stitched together will only be as good as their lowest

common denominator. In those kinds of systems, I think we'll struggle. So I'm looking forward to that work happening. I'm looking forward to the Pacific deterrence initiative, which is that PACOM thing I talked about, getting fully visualized in the next few budgets. FY22 probably didn't deliver as much as possible.

### RADM (Ret) Mark Montgomery:

Now here's some good news. Congress cares about that. They care about missile defense. I think there is a zero degree Kelvin chance that we're not going to get a plus up in MDA's budget. We're not going to get a specific plus up in some of those Pacific deterrent initiative programs. So, I think you'll see a better final budget in December then you're seeing now, but we did start from a pretty good spot.

#### Mr. Riki Ellison:

Mark, I'm struggling, and maybe you can help me understand this better. But my understanding is if we have the right missile defense capability on Guam, we can release a \$2.5 billion ship. We can release three \$2.5 billion ships that do that mission. We could release the THAAD mission, another billion dollars and put those in other places to be more efficient. That seems to be a lot of money saved. Why aren't we seeing that in a congressional perspective as a cost savings position? Just on that alone, it would be worth the investment to put something down in Aegis Ashore capability or whatever that capability they're going to put down to relieve the cost for the taxpayers.

### RADM (Ret) Mark Montgomery:

I think your principle's right, that if we get the right defense Guam system in, we're going to be able to release the kind of... It's only there during the contingency, it's not there 365. But the idea of time, one or two Aegis destroyers and their reliefs, so you're right, three or four ships to this mission. I'll tell you why this is a challenge. What we're talking is intrinsically, we have a Air Force targets. It's really Hickam Air Base. We should defend all Guam, but it starts and ends around Hickam Air Base. We need that airfield to work. I'm sorry, not Hickam, Anderson. Anderson Airfield. So, it's an inherently Air Force target. The mission for air base missile defense is an Army mission, in Iraq. And the only system, I think, that in fact they do, it's a Navy system, Aegis Ashore.

#### RADM (Ret) Mark Montgomery:

So, I would describe this as Dante's seventh level of Goldwater Nichols hell we're in, because you have the Air Force target, Army mission, Navy... If I was the CNO, if I was Admiral Gilday, I would say, "I'm happy to have an Aegis Ashore there. I'm not happy to pay for it. That should not be my \$3 billion." I'm sure the Army is like, "We're not really interested in paying \$3 billion for a Navy system." And the Air Force is like, "Hey, wait a minute. We're not even supposed to be part of this discussion." So, I mean, we do have to figure this out, and that's why it's going to take a combination of OSD above the services, and Congress above OSD to really figure this out.

#### Mr. Riki Ellison:

And I would say the National Guard as is the answer for US homeland. But let me ask one more question here, because what you haven't discussed yet, what is the architecture for the island jumps or to protect air bases on islands beyond Guam or how we play that? Does missile defense play in that role in the Pacific theater versus China on that aspect?

RADM (Ret) Mark Montgomery:

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I think PACOM's thought about this hard, first of all.

Mr. Riki Ellison:

Is it necessary to do this?

RADM (Ret) Mark Montgomery:

Yeah, it's hard. What I would say is the Air Force in thinking about this has come up with agile combat employment, the idea of moving their forces around, using maneuver to provide somewhat defense. That will work if you make the investments ahead of time. Here are the investments you need ahead of time. One, you need to sit down with your allies and partners and say, "I'm going to make myself able to use not just the traditional four to six bases in mainland Japan, but your 26 Japanese self defense air bases, and maybe another 30 to 40 private airfields, so the Chinese have to look at 50 to 60 targets in Japan." As we work with Philippines on the ECDA negotiations, hopefully-

Mr. Riki Ellison: Do each of those sites need missile defense?

RADM (Ret) Mark Montgomery: No, what you would do is you would move around.

Mr. Riki Ellison:

Or can we just disperse them?

### RADM (Ret) Mark Montgomery:

I think you would have cruise missile defense to the degree... It depends which cruise missile defense system you end up buying. If you buy, if you eventually have NASAMS or IFPC, you have three consecutive miracles and it begins to come together, one of those systems can be C-17 lifted and they can move with the Air Force. The Air Force is already going to have to pre-deploy base air defenses, the base air defense systems that we have in Europe, in Asia, in addition to needing about 23 to 30 in Europe, we're going to need 23 to 30 in Asia.

Mr. Riki Ellison:

Just to be clear, this is different than the architecture for Guam, or is this somewhat the same.

RADM (Ret) Mark Montgomery:

This is different. No, this is different.

Mr. Riki Ellison:

Because this has got to be moving agile. It's not the same.

RADM (Ret) Mark Montgomery:

Yeah, you're going to need deployable air base sets, those air force things, some limited air defense, and mobility. The Marine Corps already does it. This is how the Marine Corps operates day to day. They literally move their F-18 squadrons, several days they can move them, operate for two or three days,

move them. They bring for short airfields, their own arresting gears. I mean, they are a truly mobile deployable service. The Air Force is looking at how to be like that. I think if they can do that, you create a targeting problem with the Chinese that can give you some survivability.

### RADM (Ret) Mark Montgomery:

Guam is just one of those airfields that first of all, it's American territory and we have to defend it, so we might as well anchor ourselves there. I would not anchor myself at any other airfield in east Asia right now, but I think you have to at Anderson in Guam.

Mr. Riki Ellison:

Okay, thank you, Mark. All right. Well now, we'll shift over-

### RDML Tom Druggan:

So, the studies for the defense of Guam are ongoing and looking broadly, and it's not just ballistic missile defense. It's also hypersonic missile defense, and cruise missile defense, and other kinds of attacks. So, it's a broad effort, and not just by the Missile Defense Agency. Other organizations are involved.

Mr. Riki Ellison: And you're looking at those agile bases for basic [crosstalk 00:47:28]

RDML Tom Druggan:

That tends to be a service problem in this case.

Mr. Riki Ellison:

Yeah.

#### RDML Tom Druggan:

So, I'm not involved. In missile defense agencies, not involved in that particular survivability problem for the air fields.

Mr. Riki Ellison:

But you're comfortable that Aegis Combat System could relieve the ships or not?

RDML Tom Druggan:

So, nice try. Nice try. We'll let the chief architect in the Missile Defense Agency finish his work, and we'll go from there.

Mr. Riki Ellison:

Okay. All right. That's really great. All right, Jamie, now we get to hear the other side of the world. We need to get a little balance in this discussion here. It's so great to have you. You're Harvard educated, you're a submariner, and you've had one of the most prominent jobs in the world of the naval forces for Europe. That formidable shield just came out of there, so we're real excited to have you here, Jamie, and hear your thoughts on that side of the world.

## ADM (Ret) James Foggo:

Thanks very much, Riki. It's great to be here with Admiral Tom Druggan and my good friend, Mark Montgomery. I come here today as a fellow from the Center for European Policy Analysis. The good thing about being retired and being a fellow is you get to do a lot of reading, research a little bit of analysis, and you formulate your own opinions. So, today I'll just share some of my own personal opinions with you about missile defense.

## ADM (Ret) James Foggo:

First of all, I'm a big believer in missile defense and our missile defenders. And I'm a big believer in the transatlantic bridge. I also believe we're in the midst of a great power competition, no surprise there. Western Pacific and China's important, but China is also in Europe and Russia's still important, too. We had a great summit between two presidents today. Let's hope it continues. But the reason we had that summit was because we negotiate from a position of strength.

### ADM (Ret) James Foggo:

Now, as I went back and did some homework for the session today, I looked at a missile defense outline brochure online. And it states the missile defense agency works closely with our combatant commanders, parenthesis, Pacific command, Northern command, et cetera. And I was surprised that I said, so the shining example of our first overseas Aegis Ashore facility in Deveselu, Romania has become an etc. My old boss, Harry Harrison became a PACOM commander and also ambassador to South Korea. He used to say, "Words matter." So, I'm here to talk about the perspective from Europe today.

### ADM (Ret) James Foggo:

My journey is going to take you back to the future. So, I'm going to go back to grad school in 1986 for two seconds and tell you that my first introduction to missile defense was at a course on international law in the Harvard Law School. I was at the Kennedy School with two great professors, Abe and Antonio Chase. Abe Chase had been this legal advisor to John F. Kennedy. I mean, he was walking history. He believed in the ABM Treaty. We read it, we studied it, we wrote about it, and it was later abrogated. I'm sure he wasn't happy about that. But you know, treaties are great when you abide by the treaty, and when the only one abiding by the treaty is the United States of America, it's not good for our security. So, when it was abrogated in 2006, that was 60 years after the last V2 buzz bomb hit the UK, the Bush Administration went from BMDO to Missile Defense Agency. And then, the Obama Administration decided that we're going to start putting facilities overseas.

### ADM (Ret) James Foggo:

My next foray into missile defense was when I worked for Admiral Mike Mullen, and arguably to me, and I'm biased, one of the best chairman we ever had. When the president made a decision to shoot down one of our satellites that had gone awry back in 2007, Admiral Mullen took ownership of that. He was a disciple of Wayne Meyer who was the architect of Aegis. So, we went out to the Pacific, we went to [Macalapa 00:51:05], and lo and behold, there's Admiral Brad Hicks, and that's going to come back to the future here in a minute. Admiral Mullen met with him and Macalapa to the wee hours of the morning. And then we went down to the PAC Fleet, it was either PACOM or PAC Fleet. Admiral Pat Walsh had been a midshipman with Admiral Mullen at the Naval Academy. He was accompanying an officer, so we went there and we watched this shot.

### ADM (Ret) James Foggo:

For me as a submariner, where command and control is important, forceful backup is important, feedback and repeat backs are important, it was one of the most professional things I'd ever seen in my life. USS Lake Erie is out there. We can hear the ship talking. We can hear the commanding officer. We can hear the launch, see the launch, and we can see missile kill extraordinaire in the upper tier of that satellite. It was extraordinary. It convinced me that we need more of this.

### ADM (Ret) James Foggo:

So, the next opportunity I had is when Admiral Mullen passed me off to the Supreme Allied Commander. Any gig that has the word supreme in it, is great. That was Jim Stavridis, wonderful guy. We traveled all over the place. We're in Romania when the President of Romania, Traian Basescu, tells us, "When Undersecretary Tasha came over here and asked me about whether or not there could be a footprint for a missile defense in Romania, I convened the Security Council. I had an answer in 45 minutes." Well, we didn't even have a piece of paper, yet the Romanians, like the rest of our European allies are with us. At CEPA, I work with Ben Hodges. He does the land, I do the sea. You guys know Ben, you know that he's tight with all the allies over there, too. I think that we need to continue to strengthen that transatlantic bridge.

### ADM (Ret) James Foggo:

So, my next opportunity in missile defense was I came back to the United States after that one star tour, and I did a couple of jobs before being rewarded and going back as Sixth Fleet Commander. Before I left, I went to the Missile Defense Agency to see an old friend, Vice Admiral Jim Syring. Jim said to me, "Hey, we've got a couple of challenges. First of all, we're going to move this facility from Morrestown, New Jersey to the wheat field and old Soviet air base in Deveselu, Romania. We're under schedule pressure. Need your help." I said, "I'm all in."

### ADM (Ret) James Foggo:

He also said, "It would be really great to shoot an SM-3 missile in Europe as a demonstrator of missile defense. I think I can get permission and funding. I'm going to need help." John Rood was one of the guys that helped us out. He goes, "Are you in?" One of my favorite movies is Tombstone. I said, "I'm your Huckleberry." We're going to do this with Theater Missile Defense Forum, the Europeans, and we pulled it off in 2015 with Formidable Shield. So, that's the back to the future part, because that was in '15. That was with our first Integrated Air and Missile Defense Commodore, a guy named Jeff Wilson. Normally, he works for MDA down in Huntsville, Alabama. Did a great job along with two Commodores, Esposito, and Dromerhauser and Schaefer.

### ADM (Ret) James Foggo:

It was a canned scenario. So, we knew the launch time. We were on a range. We frankly saved that range, the Hebrides, from extinction and put it back on the map. It was the first time that a ballistic missile had ever been launched from the United Kingdom. Think about that, after all those V1, V2s went in there. First time they ever launched that missile. Spectacular shot, the bullet hit the bullet.

#### ADM (Ret) James Foggo:

And then the next year, I went back the other day and looked at a video tape I did for Formidable Shield '17, and the difficulty and the extended range of that shot, then 19, and now 21. If you read on your website what we did in '21, it was absolutely spectacular. We've got the crown jewel at the center of the screen. We've got Europeans out there providing data to the Aegis system and shooting down cruise

missiles that are coming in and trying to take the set up. Asters flying all over the place. This is really good for interoperability.

### ADM (Ret) James Foggo:

I get the fact that we've got to move some resources out to the Pacific, but we also have to understand that in order to maintain the modicum of security we have today in Europe... And peace is not breaking out all over. It's getting tougher and tougher over there, and there's other players, and other actors, and nefarious elements that are involved. We've got to have that interoperability with the Allies. And that's one of the things that that exercise really brings to the table. So, I'm very happy to be here today, just representing my own thoughts and opinions. Thanks for inviting me, Riki. And I'd be happy to talk about any of this or what my views are on the future with this distinguished panel.

#### Mr. Riki Ellison:

Thank you. That was great, Jamie. Tom, do you want to ask me anything on the Formidable Shield?

RDML Tom Druggan: Well, one, I took an action, by the way.

ADM (Ret) James Foggo:

Right from the website.

### RDML Tom Druggan:

So, I was a senior United States representative out there, and that was a true honor representing the US and working with the Allies. We had 10 navies and about 15 ships all working over three weeks of air defense and missile defense exercises, with live services, live aircraft, live targets and live missile shots. As Admiral Foggo said, Asters were flying. Aster's a European developed missile. We also shot four SM-3s. We shot three SM-3 Block IA's, kind of our second generation missile, and one SM-3 Block IB, our third generation missile. And we have the fourth is soon to deploy here, which is the SM-3 Block IIA.

#### RDML Tom Druggan:

But to shoot four at one time was only enabled by the mastery that was set up in the previous three Formidable Shields. It used to take us over a week, 10 days, to get a good stable interoperability with our tactical data link. Then I think in 2019, we were down to a few days. And now, literally, it's hours. So, we have 10 navies all with different combat systems coming together and being able to be effective from a war fighting perspective in hours. That's eye watering, and that did not happen in 2015 or 2013 or prior to that.

ADM (Ret) James Foggo:

No.

### RDML Tom Druggan:

Also, bringing the high end targets, and thanks to the Missile Defense Agency for supporting the Formidable Shield effort and the at-sea demonstrations that are completed there, but also the Navy. The Navy brought two supersonic targets this year which were fired at low altitude, and that really stresses everybody's combat system. We'll do that again in 2023. So, both the Missile Defense Agency and the Navy will be back to Formidable Shield and the at-sea demonstrations in 2023, to really continue this impressive series of events. Going to [crosstalk 00:58:00] Vice Admiral Gene Black here.

### PART 2 OF 4 ENDS [00:58:04]

### RDML Tom Druggan:

[crosstalk 00:58:02] black here shortly to review everything that was done. And again, what was really the cruise missile defense and ballistic missile defense. Really, we got to the level of integrated air and missile defense interoperability that the Commodore, Commodore John [Lips 00:58:21], did a fantastic job, was actually able to start doing what I would call, it's a pretty more advanced command and control, switching between their defense commander to the backup air defense commander and sent to, as these scenarios were going on. Controlling a lot of aircraft and doing an extension, they also went up to Norway, the Norway range there, to do some additional formidable shield exercises. So really it's grown, it's matured. We are in true. IAMD now, integrated air and missile defense, at an international level and effective. So it was a real honor to be there.

### Mr. Riki Ellison:

John Lips, the Commodore was our missile defense of the year, I think, in two places in the world. I think we had a couple of the sailors were, so it was awesome to see them in the field. Jamie, there has always been a resistance a little bit from the Europeans to do upper tier defense. And I would assume that, that was the same with possibly hypersonic. So I know we took the initiative to say, "Hey, we're going to handle that per tier, I guess the small threat from Iran." So how do we evolve that to get them to buy the effectors? Is it the support of a consortium or how's that moving? That's one question. The next question, the Navy's got this right, why can't we combine this to the land exercises to get a full, integrated cross domain exercise? I think that would show such strong deterrent with that. So those are the two big questions. I know they're difficult.

### ADM (Ret) James Foggo:

No, no, I'm happy to jump on those grenades. So first and foremost, I think Tom said 10 European navies involved with us. So there is an element and a desire to get more involved in missile defense with our counterparts, and the Dutch, the Italians, the Norwegians, people want to be part of this... And the Spanish, and they want to be contributors to the Aegis targeting system. They don't have a missiles expense. Last time I checked, the one was shot in 15, was 13 and a half million bucks. That's a pretty expensive bullet. I did, at one time, table an idea a few years ago about a consortium. When we did Formidable Shield 15, Admiral John Richardson and First Sea Lord [Zambellus 01:01:00], were in-house at six fleet headquarters. They were there for talks.

### ADM (Ret) James Foggo:

We happened to shoot the missile on the same day, and that's when they inked the idea to do a consortium of P8s with United Kingdom. And those aircraft are starting to arrive. And you saw during Formidable Shield 21, that the P8s actually shot harpoons in that exercise. So if a consortium can work in the air, why can't it work in a pool of missiles? And I think that would make it a lot easier for the Europeans and also make them more interoperable. There's a whole bunch of hurdles that you have to go through there. And the one good thing that what my staff would tell me when I was back in Europe on active duty, they'd say, "Hey, sir as an operator, you don't have to figure out all these technical details that other people do."

## ADM (Ret) James Foggo:

So it's a real challenge. On the future of defense in Europe and great power competition and where we're going with all this, there's got to be a come to the table determination of what our priorities are. And I think we're starting to see that as great power competition becomes more and more threatening in the Pacific, that we're going to have to shift some resources out there. So we want those European allies to be able to defend themselves. We do upper tier to a fairly well, it would be great to have others help us with that. It'll take a while to get there. The every other year Formidable Shield is a way to ensure that success for the future.

## RADM (Ret) Mark Montgomery:

If I could jump in on one thing on the European, I agree completely with everything Jamie said, and I'd add in that it's intentional, we don't expect 27 or 28 NATO navies to show up at Formidable Shield. We understand that it has to be a select group of, and I think in hypersonic defense, the same thing, all merge, it's not realistic. It's going to be a small, select group of countries that have made the investments along the way in air defense systems and missiles of technology. Generally, countries who have companies who have been working in this, as well. So I think it will be a small group, but I think they'll be committed to it. And to pick up on what Jamie said about division of labor, the US is very good at providing a lot of the offensive capabilities in Europe, in other words, and we continue to, we just purchased over 500 [Jazz MERs 01:03:16] and we're doing that year over year.

### RADM (Ret) Mark Montgomery:

That's something we do. We have the right, the B-1s, the B-2s, the B-52s, the F-35s, F-15s, they can launch these kind of systems and do these kind of missions. But I think for the things, the logistics and the force protection and things that have to be there at minute zero of a challenge, it's much more realistic for the Europeans to provide for that. So that means things like air defense and eventually things like hypersonic missile defense probably have to grow from the large number of European forces there and then the small amount of forge stationed US forces there, and we still maintain a healthy, we actually have grown-

### Mr. Riki Ellison:

Mark, it looks like the Europeans have used this as a crutch just on the upper tier. And that's great for Iran, but if we're going to move out on Russia, we can't-

### RADM (Ret) Mark Montgomery:

So I would say in general, the Europeans have used us as a crutch on Iran. I'd set that aside and say that for the Russia threat, for something like hypersonic missile defense, I think they understand not to do it. Now, this is a very small group of countries that I think that can really get into hypersonic, maybe on one hand, but I think they'll make those investments. I think once you've made a decision, I'm confident the Europeans will shoulder their share of this. That doesn't mean we don't have unique capabilities we wouldn't bring even on the defensive side like that, just like we still maintain... We have some unique logistics capabilities that others don't have in Europe.

### Mr. Riki Ellison:

What about the joint offense, defense training mission, or something bigger than Formidable Shield, are the Europeans ready to throw that down? Or is that too much?

## ADM (Ret) James Foggo:

So we went from Formidable Shield, we finished up the Defender 21. To your point, Riki the Navy and other navies and the Navy and Marine Corps, or truly a joint team that fights in all domains. So we need to get better at integrating ourselves with the land. And that comes through a global approach to these operations and experimentations that we do out there. We went from Defender 21, which Navy's doing some operations at sea, there's stuff going on in the land. Bennett Hodges and I talk about this all the time and how we should have synergy. We rolled right into BALTOPS without a blink of an eye. And that's 40 ships and 5,000 personnel up in the Baltic. And then when we finish that, we're going to start later this summer, the large scale exercise.

## ADM (Ret) James Foggo:

Now this is across 17 times zones. It's 25,000 personnel. It's the Navy and Marine Corps really integrating war fighting across those five domains. It's self first. We can test our doctrine and our tactics and our strategy, and then we can bring others in later on. So I think there is a movement of foot. And personally, I think this is led by Naval officers and Naval forces and Marine Corps, inherent in that when I say Naval, to do more cross domain. When you talk about things like JADC2, and I'm reading about the budget today and where we are moving forward, we've all got to be on the same team, we've all got to collaborate there. And I think that's the future of warfare and that's what will defeat any adversary out there because when the United States puts its mind to it, just like the brilliance of Wayne Meyer in Aegis and the SM-3 interceptor, we're going to come up with the best systems and then we're going to come up with a way to deploy those systems that increases risk for any adversary and we will determine as a result.

Mr. Riki Ellison:

Thanks, Jamie. Tom, do you?

### RDML Tom Druggan:

Yeah, I do, and thanks, Riki. Both Admiral Montgomery and Admiral Foggo have talked about really sensors, weapons, connections, and stuff like that. So that's really raising our game, so to speak, to be able to fight at the network level and fighting at the network level brings a lot of inherent advantages. You get resilience as you lose a war fighting node called a ship or an aircraft or something. You can immediately shift their tasking to others. You could even split duties. You can officially allocate a task across your force to make sure that when the summer over-tasks, you can shift that. It gives you a lot of resilience, really at your force level and not just the force level at a Navy perspective, but the joint force level. The hard part about fighting at the network level is the engineering behind it.

### RDML Tom Druggan:

Interoperability is sharing the picture so that commanders can have a common understanding of what each of them sees. Integrated war fighting is a whole new level where we're trading high quality data, we call it fire control quality data, around on a network so that different units have opportunities to engage. It actually, at the end of the day, is very powerful, but it's very engineering intensive to deliver that because literally you have to go pair by pair of the systems that you're integrating. Because the last thing we need to do is shoot things that aren't there because we shot on a track that because the network was latent, the track that we're seeing is late compared to where it actually is, latency, if you will. Or we have multiple people trying to shoot the same target. We're just wasting an ordinance in both directions. Not helpful.

### RDML Tom Druggan:

We really need to be able to have the command and control, to have the visibility, to coordinate and command at the network level, but then to effectively execute those. We don't need people allocating fires to assets that can't achieve effective fires. So there's a lot of advantage of it. We're actually moving fairly in a very measured way towards that. CEC, the cooperative engagement capability for the Navy units was first out of the gate in an air defense context. Next came along some BMD coordination where we had launch on remote, which is one Aegis ship supporting another. And now engage on remote, where we have even ground-based radars, like the TPY-2, supporting ships at sea to shoot down threats in space. That's pretty amazing all by itself. That's fighting at the network level and moving that fire control quality data around to different shoot from sensors, high fidelity sensors to shooters.

### RDML Tom Druggan:

And then the Navy, back to the Navy side, doing the Naval integrated fire control-counter air, a system called NIFC-CA, which allows us and enables us to shoot smart missiles over the horizon against cruise missiles and threats like that, that the ship can't even see. So we're getting there, but it is very important to recognize that there's an important technical aspect and effort that goes as you combine each one of those. Last one was actually we integrated THAAD, theater high altitude air defense, and Patriot so that they have good synergy. That fighting of the network level is there, space is an opportunity for us to start trying to leverage and look at the advantages that, that could bring as a global sensor network.

#### Mr. Riki Ellison:

Okay, great. I'm going to now turn over to my colleague, another MDA board member, former under secretary, John. So John, the floor is yours.

#### Mr. John Rood:

Well, thank you, Riki. And my role here, folks will be to pose questions to the panelists. We have a couple of pages of questions that you all in the audience have submitted. In some cases, they overlap a little bit, so I'll bundle some of those together and follow up. But first, let me compliment the panelists on a really good discussion and a really good layout of the issues that are involved. I'd like to begin with Admiral Foggo, though, in the questioning.

ADM (Ret) James Foggo:

Sure, John.

#### Mr. John Rood:

And say, in Europe, when you talked about these major exercises, whether they were Baltic operations, Formidable Shield for missile defense, or Defender, which involved over a division sized movement of US forces to Europe, those are great opportunities for the allies to collaborate together under the NATO umbrella. The other thing NATO is known for is pooling resources and collaborating and finding ways to do more by putting your resources together than the individual states could do themselves. So when you look out across the missile threats facing the Alliance, whether it's from Iran or from Russia, what do you think the Alliance needs as its highest priority, both from the capabilities that are needed, and then what are some of the ways they ought to go about doing?

ADM (Ret) James Foggo:

I'm biased John, and I'll tell you that one of my favorite authors, Robert Kaplan, writes about the maritime in Asia's Cauldron, and he says, "This is not just the maritime decade, it's the maritime century." And if you look at Europe and you darken out all the land and you turn all the seas into an azure blue, what you see is a peninsula. And so I think there needs to be more focus in NATO on the maritime in particular, because from those platforms at sea, we provide surveillance and we provide deterrence, and therefore we provide defense with different systems that are onboard those ships, whether it be guns or whether it be missiles, we just saw this at Formidable Shield. There're other things that NATO needs to do and invest in or reinvest in that will give us access to places through choke points. Just having a conversation the other day about the Baltic and BALTOPS up there and how hard is it going to be if the Danish straits are ever mined.

## ADM (Ret) James Foggo:

It's going to be really hard and who's going to get there first? Well, probably not us. We're going to depend on NATO allies and partners. So there's all these niche capabilities that need to be sorted out. In the NATO strategic review 2030, in that document that was talked about in Brussels during the NATO summit and basically embraced by all the leaders of all the 30 nations. There's a piece that says we need a new NATO maritime strategy. And Mark and I have spent a lot of time doing Naval strategies in the United States Navy. When you have a strategy, you have a plan. It is a natural outcropping to have a plan on how you're going to employ assets. You know what your force structure looks like. You know how much it's going to cost.

## ADM (Ret) James Foggo:

We all would want a strategy before a budget. It doesn't really work that way, but once you've got a number of ships out there, and there's this huge debate going on right now, well, the Chinese have 350 ships and United States did not budget for a competition to 350 ships. There's a certain quality to quantity, but there's also no comparison between the weapon systems that we field. We talked about the SM-3 Aegis today, and our ability to exceed any of our adversaries in the development of hypersonics, I'm convinced. We've also got to have defense for those hypersonics, but in this broader maritime strategy, I think 21 of the 30 NATO countries have navies. We've got to figure out how we're going to pool resources, pay for the strategy, and then have a list of priorities. We always run to the sound of the guns.

### ADM (Ret) James Foggo:

If there's something going on in the high north, we send ships up there. If something happens in the Black Sea in Ukraine, we send ships there. If something happens in the Baltic, we send ships there. How do we stabilize and normalize that presence over time? And how do we distribute those forces so that they're there and we don't have to run there every time? And that requires what we in the United States call a TPFDD, a time phase force deployment doctrine. So we know who's coming and who's the backup. And we don't currently have that in the North Atlantic Treaty Organization. I think that's something to work on. And that's something that all those nations in articulating support for NATO 2030 should come together and develop for the future.

### Mr. John Rood:

Now, with respect to missile defense, of course, it's very expensive to develop these systems and deploy them. Is there anything that the Alliance should do where allies work together in that regard?

## ADM (Ret) James Foggo:

Yeah, I think we're doing it with MTMD and that's what brought about the success of Formidable Shield for the last four iterations. And we need to do more of that. When you talk about consortiums, we have a C17 consortium, we have a NATO AWACS consortium, and we now have a consortium of P8s in Norway and the United Kingdom. Other nations can come on board in the consortium for missile defense. It's not just participating every other year in a Formidable Shield, but buying into those systems. There's got to be some give and take though. The United States is very particular on who it will share these technologies with. Mark is an expert on this, not so much me, but there are things that NATO nations have to do to ensure that they can stay plugged in.

## ADM (Ret) James Foggo:

Listening to Tom talk about networks, we are happy to share information and have our partners and allies plug into our networks as long as their networks are clean. And that was a clear reminder that I made all the time to my European counterparts. You want to talk about investment in 5G, be very, very careful. Keep your networks and your weapon systems and there's a lot of discussion about the European defense initiatives now that go in a different direction. If those networks are not certified and able to be joined with our networks, then you're not going to plug in. And I think that's resonating. And that clearly was an outcome of the NATO summit in heightened concerns over China in great power competition.

## RADM (Ret) Mark Montgomery:

John, I can give a couple... I agree completely with everything Jamie just said. And I'd also say, I think there's two good examples where they could work together building on existent consortium's or on existing efforts. One is in cruise missile defense at the lower level, at the low elevation level. For a lot of reasons, the United States army has walked away from this mission while they had so many other challenging missions after 2001. But some of our NATO partners didn't, so the Norwegians, the Dutch, the Spanish all have [inaudible 01:18:15] systems. We ought to be pushing harder for this TPFDD type thing where they're on rotation at major NATO airfields like Rammstein. They're fully Link 16 capable, they can be integrated in very easily. We have our own [inaudible 01:18:31] that defends that the national guard runs defending the national Capitol region.

### RADM (Ret) Mark Montgomery:

So we're used to operating this alongside Patriot, alongside that. That's one example. A second is, as we think about NATO, the post AWACS era. The US Air Force is finally starting to realize that they will have to replace AWACS. I think they're looking hard at the Wedgetail and Australian thing. They could look at the NATO, the Navy E-2D, and I know it's anathema to the Air Force to pick a Navy weapons system. And it's certainly a smaller and there's not a crew rack or anything. The Air Force is going to have to think hard about it, but the E-2D would be another option, but for NATO, the Wedgetail and the E-2D contribute to cruise missile defense in a way that the E-3A didn't.

### RADM (Ret) Mark Montgomery:

And so I think that as NATO goes to the next generation, they're going to need to take a hard look at that. I think probably the Wedgetail, it's just a better land-based aircraft probably, but the E-2D might be another option. Certainly one the Japanese Air Force is using going forward. So those are two areas in the missile defense realm, where the technology exists for our allies and partners to easily buy into it,

the interoperability with existing US systems, it exists. And so I think those are two areas where I would hope NATO might take some effort.

ADM (Ret) James Foggo: Let me offer a footnote. John, if I may.

Mr. John Rood:

Please, go ahead.

### ADM (Ret) James Foggo:

I'm listening to Mark talk, and I know Mark is a former colleague of Chris Brose, who was up with the SASC working with Senator McCain, what a great book he wrote called Kill Chain. And something else that NATO partners and allies can do is contribute to war fighting by getting to the left of the kill chain. That means more investment in cyber and space. And when you read Brose's book, and we just listened to Mark talk about AWACS, one of the things that got John McCain's attention was a renewal of JSTARS, and he just didn't see the utility in that and it went away. Subsequently, we have JADC2 thinking out of the box, we've got to think out of the box, we've got to the left of the kill chain. Actually as much as I love missile defenders and missile defense agency, if we can do that, we can put the interceptors out of business because there won't be kinetic type events.

### Mr. Riki Ellison:

The one challenge I see though, is to Tom's point, the network and ACT the command and control of NATO with France and versus us. That's a big gap between what we're doing to JDC-2, where we're going and how do you heal that? They'll put a lot of money into that in R&D and that doesn't seem to be functioning the way it should be to do what you're talking about of having a network capability to run a command and control from.

### ADM (Ret) James Foggo:

Well, the good news is, Riki, that ACT exists, it's down in Norfolk, it's co-located with joint forces command Norfolk, which is a relatively new pillar of the transatlantic bridge. [inaudible 01:21:32] has done a great job down there, and there's still much work to be done, but when it comes to the French, separate the political from the mill to mill relationship, mill to mill relationship is terrific. They went out and filled in for the carrier gap twice in the last couple of years with Charles Dugalle. So we have proven that we can be interoperable, plug into each other's systems. You're running around out in the Gulf with some of these high tension situations with the Iranians in the last couple of years, there's got to be an ability to pass data on tracks that could become potential targeting data. So we've sort of figured that out and we need to do the same thing in missile defense for missile defenders of all flags under the NATO alliance.

#### RDML Tom Druggan:

We even have a Marine Corps F-35 squadron deploying on the Queen Elizabeth.

Mr. John Rood: That's wonderful.

### RDML Tom Druggan:

The commanders are able to move the pieces around when and where they need them and help each other.

### Mr. John Rood:

I want to switch gears and come to the Pacific here and talk a little bit about what has become widely acknowledged as the largest national security threat the United States faces and that's through China. And I want to bring Admiral Dhruggan into this part of the discussion. When people look at all the different military capabilities that China's developed, missiles, ballistic missiles, cruise missiles, hypersonic missiles, are one of the most prominent capabilities that that military has developed. And China's got over 1000 short and mediate range missiles. They've deployed hundreds of intermediate range missiles, and then a very large ICBM force plus aircraft launch cruise missiles, carrier strike type missiles. And then those aimed at the United States Homeland from a submarine launch ballistic missiles. So all in all, there's a lot to deal with there.

#### RDML Tom Druggan:

That would be called great power competition.

#### Mr. John Rood:

That's right. In your role though, of course, as the capability developer for dealing with these missile threats, how would you explain what are the major capability improvements that we're working on? What are say the top three things that the audience ought to look for that it's a priority for you and your colleagues in Aegis BMD, and how does that relate to the China threat?

#### RDML Tom Druggan:

I'm happy to answer that. I think we have to back up to really take a look at Naval forces and missile defense in a Naval force context. The first thing, if we go interceptor versus interceptor, there's a good chance there are land based, where we're in the Western Pacific, they would have more missiles than we would. They would have more threat missiles than we would have interceptors. That's just where we are in those threats. The good news is, the Naval forces don't rely just on that active kinetic missile defense. We actually do have a layer, and it starts with maneuver, being able to maneuver, and the Navy's distributed maritime operations include portions of that. We have operational deception, which is helping really complicating China's calculus on where are our forces. And this alludes to the Air Force example you gave on access to many bases, where are they today and what the Marine Corps does.

#### RDML Tom Druggan:

So maneuver and operational deception are our key pieces here. The ability to aggregate and disaggregate, very important. The ability to maneuver out of the threat envelope and then maneuver back in, and then back out at a time and place of our choosing is an important context as well. And in terms of actual missile defense of a particular platform, or the carrier strike group, we have one more advantage over terrestrial. A missile that's going to hit a place on earth can use a satellite navigation system like GPS, or it can use its internal navigation system and still hit that point. In the air is a little bit different, but it'll get close. Even if it uses its own internal navigation system, which is prevalent in your smartphone today. Then we have the other piece of Naval forces. Well, Naval forces are never still, we are truly mobile all the time, everywhere.

### RDML Tom Druggan:

We can't sit still. And so we're constantly maneuvering. And what that means is that the threat missile has to have a seeker. It has to be able in the end game to on its own, find its target. And it's an opportunity for us to further defend ourselves because now we can use electronic warfare techniques, we can use decoys, as well as the layers of kinetic interceptors. So there's good appreciation that we have all these tools to defend our Naval forces at sea and the war fighter and the commander's problem is what tool to use when and how many. And this is all post-launch. We also have the left of launch tools. So at the end of the day, it's a pretty robust tool set for Naval commanders to use. The trick is developing the proficiency. This is the human piece, when and what tools to use and how to use them to be effective and be able to defeat and deny those raids of

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### RDML Tom Druggan:

And be able to defeat and deny those raids of the threats that are coming in. And it just can't be the ship commander, the commanding officer of the destroyer or cruiser. It can't be the air defense commander of a strike group. It can't be the strike group commander on his own. This is really... At a minimum, the strike group commander level, but then up into the fleet and we have what we call numbered fleet commanders. So in the Mediterranean and the European theater, it's the commander of sixth fleet in the Persian Gulf and the Red Sea, Northern Arabian Sea area is the commander of fifth fleet. And then in the Western Pacific and over into the Indian Ocean is the commander of seventh fleet. We have a couple others there that are associated with the United States and Southern command, but those are three that are focused expeditionary really overseas.

#### RDML Tom Druggan:

So they'll be the ones that have full visibility from left of launch to the strategic and the operational deception and then finally into defending the assets actually at sea. So there's the problem set is these rates of all these missiles that China has developed and they're out of development because they've tested their way to production. And so now they're into production of threat weapons and cruise, hypersonic, and even ballistic missiles, all of which are threats to the Navy as well as assets ashore. And part of our job remember is not just defending the strike group or individual ships, but also reaffirm reassuring our friends and allies that we'll be there by being there in peacetime, and then also having the capability to defend critical infrastructure in areas ashore when we're called upon. So I don't know. I think I answered your question. Let's just check and make sure.

#### Mr. John Rood:

Well, would you say then that some of the advancements though for active missile defense will include improvements to protect the carrier, to make the Chinese anti ship capability, less capable?

#### RDML Tom Druggan:

I'll say that by the Navy and the Missile Defense Agency will recognize the threat that the Chinese systems pose and have developed and are continuing to develop and improve new systems, improve the current systems and develop new systems to face that threat.

Mr. John Rood:

Okay. All right. Let me bring Admiral Montgomery into this discussion. You mentioned in your remarks, some of the budget outlook that the Congress is going to look at, and obviously the Congress very focused on things like the Pacific deterrence initiative, countering China, providing more robust capabilities. And when we come to missile defense, you talked about some parts of the Missile Defense Agency budget. For instance, if I heard you right there, the budget calls for buying eight SM-3 IIAs the coming year, is that really sufficient though? When you're talking about the scale of the Chinese threat with the 40 SM-3 IBs, 8 IIAs, and IIAs of course plays the predominant role of protecting the carrier, but that's less than one per month that you're producing. How do you think that Congress is going to look at this? Or how do you think that overall, this advancement in the US capability versus the advancements in the China capability? What do we need to do about that?

## RADM (Ret) Mark Montgomery:

So, well, first you have to look at previous year purchases to make sure because every once in a while you'll look and see there was an off year, one year and on year so the next year, you go down. You have to have a level playing field across three to five years. But is 48, missiles enough, four per month from the facilities is probably on the low end, but you were saying the words, capability. So it's capability and capacity. And I agree that... And I think it's one of these things where we... There is in the end of a fixed budget and you have to figure out what am I going to get? That 48 didn't put me off my game that much I thought.

## RADM (Ret) Mark Montgomery:

And I do think historically munitions are an area where the Congress does plus up. I would just say they usually go, it was my job and others on the staff's job to go to the facilities, find out what the max was without starting a new line or starting a second shift and then decide whether...

## RADM (Ret) Mark Montgomery:

Buys is... I wouldn't that didn't put me off my game. I'm more worried about some of the purchasing of the infrastructure for the defense of the Pacific. I'm worried that the boring stuff, the non munitions, like I said, the portable air base sets the improvements to dredging of harbors. The building of the purchasing of weapons igloos for multiple storage is around the theater. It's really hard to get the services to focus on that. Historically, MDA has not been the bad actor in preparing for great power competition.

### RADM (Ret) Mark Montgomery:

It's been the services because this kind of like unique preparations for either the European theater to overcome this in European theater, we created something called the European Deterrence Initiative. And we ended up having to spend \$26 billion over five years. That's how much the services we're not putting in their own budgets that we had to purchase through basically OCO overseas contingency operations money. Services are happy to spend somebody else's money on fulfilling your requirement for their service. It turns out they're pretty good at that. That was generally at that 26 billion 90% Army and Air Force. And I'd say in that about 70% Army, and it bought basically a whole division's worth of armored equipment that's now stored in Belgium, Germany, and eventually Poland for the Pacific. I think we have a similar \$25 billion shortfall, slight problems, hiccups come up. There's no more OCO and this will have to come out of service budgets.

### Mr. John Rood:

Can you explain what OCO is?

### RADM (Ret) Mark Montgomery:

OCO, overseas contingency operations, was at some point it's got up to about 20% of the overall Department of Defense, actually 30% of the overall Department of Defense, actual budget. It had been coming down. It was around 60 billion a year. Last couple of years, it's now been folded back into the base. It was a way of spending money on specific named operations overseas, generally associated with Iraq and Afghanistan. But Europe was fit in there after Crimea, after the Crimean invasion to account for. For some reason, we could never get the Pacific in there. Ironically, I think DoD just announced that they're going to do a named operation for the Pacific starting probably next year, but there's no OCO money. So I don't know what a named operation without access to a pot of money is. Well we'll find out what that means.

### RADM (Ret) Mark Montgomery:

My point on this is I do worry about the MDA numbers. I do worry about MDA. I worry much more about getting the services because my experience with the services are, if I said, "Here's my war plan, it's doing A, B, C, and D." They'd be like, "Great news, Mark. We had the exact Naval force budget for that for the next five years." I go away and say, "Oh, wait, Admiral Harris said change it. It's now E, F, G, and H." They'd be like, "Don't worry, Mark. It turns out where the exact shipbuilding plan for that is the one we've told you for A, B, C, D." If I came back and told them, there was a third one, they'd come back and tell me, "Don't worry, Mark. The budget we have fits that." The services are not terrifically interested in COCOM tweaking, of COCOM demand signals on their budgets after they've said it. And I think they're very uncomfortable with year over year changes because that does cost money when COCOM's there. But to me, if we're really going to prepare, if there is a preparation towards China and in preparation for China, it probably it means some china, metaphorical china, needs to be broken in the service budgets. And you're not seeing that happen right now.

Mr. Riki Ellison:

Can you-

Mr. John Rood:

Go ahead?

Mr. Riki Ellison:

Can you just talk about the cruise missile defense problem that we're not addressing in the budget? It doesn't seem like we are, unless I'm wrong.

### RADM (Ret) Mark Montgomery:

Yeah. Senator McCain got his normal spin cycle on this one day when it became really clear that for very good reasons, the Army had left traditional cruise missile defense. That's the ability to shoot down kind of low elevation cruise missiles, Patriot's really designed for something else in a pinch, you can twist it, but then you're using a very expensive missile and launcher system and a not optimized radar for low E cruise missile events. We used to have a system called Hawk, and then I-Hawk that kind of did this. We got out of this business, a lot of the guys who did this and gals went to the Middle East and did military police roles and other things, not cruise missile defense and cruise missile defense in the Army has tended to start to mean rocket and mortar defense using C-RAM and maybe see who's tripping on it.

### RADM (Ret) Mark Montgomery:

The Navy wasn't allowed to get out of that. It turns out cruise missile was getting fired ships. So Aegis evolved to be a cruise missile defense system. So while it is rocket science, it's solvable rocket science. The Navy has figured out how to solve it, but we, for our ground base, for our air defense, for Ramstein, for Anderson, for Massawa for Mildenhall, the major US air bases throughout European and Pacific theaters, we do not have a cruise missile defense capability, I guess the kind of low elevation cruise missiles that we fire at all adversaries. And one of the problems of us being so successful with Tomahawk is our adversaries eventually picked up on it. And they put a little bit accelerant. They made a mock speed missile, and they're firing them back at us at low elevation. And we don't have the money for that.

### RADM (Ret) Mark Montgomery:

So McCain ordered him to take a look at it. They come up with two batteries, one for the east, one for EUCOM, one for PACOM, and then a second two batteries again, EUCOM and PACOM over '21 and '22, or '22 and '23. The Army made a mistake. They went and looked at the Iron Dome which was not really a cruise missile system at the time. And currently it's not a cruise missile defense system. Now they've backed out of that a little bit and they basically are back at square one, relying on a system called IFPC indirect fire protection system. That is several... Not quite a decade behind schedule, but assuming behind schedule, over budget and being re-imagined as we speak. And so I don't think that's a solution. I think they're going to have to go to one of these standard traditional systems like NASAMS or something else. The problem though is in the meantime, the combatant commanders don't have effective defense of their land base. I worry about Ramstein in wartime, Mildenhall, Anderson, Massawa against Chinese or Russian attacks. I just don't think we're defended. That's a perfect area where service has not been responsive to COCOM requests for immediate servicing.

#### Mr. John Rood:

Okay, Let me come back to Admiral Druggan a little bit in the Pacific. And here I'm going to put together with minor surgery, sort of four questions that-

#### RDML Tom Druggan:

Oh, four, nice.

#### Mr. John Rood:

We're going to go for the four bagger here, try for the home run. First part of it talks about joint all domain operations, particularly being very difficult in the Pacific and the first so-called first island chain, which includes Taiwan. And the questioner said, "Well, how will air and missile defense be tied into enabling those joint all domain operations in the chain?" And a related question was given the difficulty in defending Taiwan because of the threat from so-called carrier killer missiles that push US Naval forces further out, how will air and missile defense enable that defense of Taiwan in these joint all domain operations in the first island chain.

#### Mr. John Rood:

And I'll continue by stitching some of these together, Admiral, by saying, and another questioner noted, "Well, the difficulty of dealing with China in that related area is so-called system attack." You talked about this a little bit in your remarks, how does your whole system operate together? How do you maintain system integrity to allow you to conduct those operations? And then the last question came in with someone who's a good quote meister, who said, "Aristotle had some famous words that quote, "The whole is greater than the sum of its parts." And that begs a question about how do we improve the service lead and joint interoperability, joint integration for air and missile defense. And does the Space Force play in this and how do they get integrated into your Pacific thinking?" So I've given you a lot there. I know all at once, sir, but we figured we'll try for the higher level of difficulty here towards the latter part of the question period.

### RDML Tom Druggan:

So great. Thanks for the questions. So, first of all, let me start with the end, because I think it's important, which is the Space Force and Space Command, and really running our global space network and what that does for us. You have to remember if you turn the globe and you kind of look at Hawaii, the rest of the globe is blue. The Pacific is massive. It is not like the Atlantic. It is absolutely not like the Mediterranean. Those are much, much... The lines of communication are much shorter. It takes almost a couple of weeks to get to Hawaii from San Diego on a ship. And it takes another three weeks to get the Guam massive area. You cannot surveil it with terrestrial or ship based radars, impossible to do the whole thing. So space helps. It will be a huge enabler.

### RDML Tom Druggan:

And we have space in lots of ways for intelligence and it provides warning, indications of warning and things like that. What I'm talking about though, is that opportunity for space-based assets to provide either near real-time or real-time data to ships or to Army or to Air Force units, either on the ground or in flight, that's a whole new level, but it is one that we do need because being able to have that perspective on the battlespace and for commanders to understand where to commit forces, where to pull them back, you have to combine the intelligence with the actual threat lay down of where their forces are and fairly deep understanding of the threat so the commanders can operationally place their forces in the right place.

### RDML Tom Druggan:

In terms of operating inside the first island chain, the second island chain outside the second island chain, things like that, particularly Naval forces, this kind of gets to the DF-21 question. So kind of goes back to, we have lots of options in how to defeat that threat. One of the kinetic options that we haven't talked about today that's really important though, is the sea-based terminal capability that the Missile Defense Agency delivers to the Navy, which takes a Navy missile, modifies it to give it a new mission to shoot down an anti-ship ballistic missile in that terminal phase. So that's a layer. So we can shoot down that threat in space with an SM-3, or we can shoot it down in the terminal phase with sea-based terminal. So those are a couple of the kinetic layers. We also have some other layers in left of launch options there. The real issue then becomes size of raids and our capacity to deal with it. The Chinese have demonstrated they did this last April, a coordinated attack, where they had anti-ship ballistic missiles, and air launch cruise missile, all converging on a spot in the ocean.

#### RDML Tom Druggan:

I think that was a signal to say, we know how to fight this fight. And you United States and your Naval assets are at risk. So that was a message to us. Of course, we've taken that and unpacked it and decided what our real capability is against that kind of threat, which we won't talk about here. But the reality is when it gets to at the commander level and deciding what forces to commit where we have to decide

what the mission is. So the defense of Taiwan, I would go to Admiral Montgomery on the former J3 at PACOM, to address that and how we would do that. But I don't think we could get into frankly, into too much detail. And the other piece is it goes back to friends and allies, will Japan join us will South Korea join us. And all of this, we hope never actually happens or comes to fruition.

### RDML Tom Druggan:

The reality is, is we would desire a peaceful solution upfront where the current status could continue, right? We would prefer to be in a deterrent role throughout. So I think in many ways that will always be our policy is to deter. But to also be in a position to reassure our friends and allies and be able to protect our expeditionary forces and the critical infrastructure of our territory, but as well as Japan, that's a piece of it. China gets a vote. That's why the leadership of China and frankly, the the Chinese Communist Party are absolutely relevant in this discussion because it is their decision-making that we're talking about and it's their militaries decision-making in terms of executing that direction is what we're talking about. And Admiral Montgomery talked about disrupting calculus. I think you did too, in terms of the Russians, how do we make them unsure of their prospects for winning and to diminish that, which is deterrence. That's what we want to do so that we don't have to have a war. When push comes to shove, the United States Navy as a Naval officer will execute the mission it's given. Our job now is to prepare for that eventuality. Prepare in peace so that we could achieve victory in combat and in war.

### RADM (Ret) Mark Montgomery:

John, let me pick up on the Taiwan thing and I agree with what Tom was saying. And I think our goal here and again, this is about deterring Chinese adventurism and the Chinese have no desire to try to, especially President Xi's desire while he's in charge to try to bring culmination to the Taiwan problem. Our goal should be to make Taiwan as indigestible as possible. That does not necessarily mean US military troops in Taiwan. It doesn't mean that we're there on day one of conflict. What it means is that we've made them extremely capable. We've exercised with them and demonstrated which we don't do. Currently, one of the things we need to really add is an actual interoperable exercise. We don't need port visits in Taiwan. We need complex naval and air exercises is that inherently in this case, inherently naval and air capability.

### RADM (Ret) Mark Montgomery:

And it's the sale of... President Trump offered to sell of a lot of weapons systems to Taiwan, which is fantastic. Unfortunately it would take about eight years of their budget to buy all the things that we've offered. So we really need to just forget how we and the Japanese and others can help them procure some of these and they're the systems we all know as Naval officers, SLAM-ER, Harpoon, LRASM, those kinds of systems, even JASSMs, to make themselves from land-based capabilities that are mobile and move around. In the air defense realm we really need to give them manned portable systems that are highly capable or vehicle portable systems that are highly capable because anything they have that's fixed is going to be removed.

### RADM (Ret) Mark Montgomery:

And the more the Chinese see them have capability to be tough to digest the better off they'll be. So the selling them with Mark 48s, I think is a fantastic idea because the Chinese know Mark 48s are very good, and it doesn't take the best submariner ever to put one in the water and make it difficult for 10 or 12 amphibious ships moving. So I just think there's a lot of things we can do there for the missile defense and the Navy, the Air Force, I agree with operating between the first and second island chain. That's

where we need to be, and there's some risk in that, but that's why we pay MDA the big bucks and Aegis ballistic missile defense to constantly buy down that risk. We can't respond to that risk by moving outside of the second island chain.

### RADM (Ret) Mark Montgomery:

I mean, inside the first island chain is too risky, I get that you can't capability yourself out of that problem, but between the first and second island chain, it's our job to work on that. You've balanced the risk versus the cost. And then you figured out how to operate there. And the Air Force is a big player in this and they'll bring capability and capacity over the top of the Navy that I think gives us a reasonable deterrent effect on the Chinese when combined with an indigestible Taiwan for two to three weeks, while we position all those forces to conduct what I said.

### RDML Tom Druggan:

I think there's one more thing is that... And this is true. Anything with China in the Western Pacific is there will be a strong desire to limit any kind of conflict because if we go to a regional conflict, it's incredibly messy and violent probably. And so that brings choices to friends and allies on what to do when, in terms of supporting us as well as any other countries that may support China. Each country is actually in a difficult position in that region for any kind of kinetic conflict between the United States and China, which no one wants. And that will be a difficult time, I think, for the entire region, which hopefully will never come to pass.

### Mr. Riki Ellison:

All right. I think... What a great discussion, been a phenomenal discussion. I think we really hit what we're here to do. Jamie. I think we got the etc, et cetera out of the European issue.

#### RDML Tom Druggan:

I had my action. I got my action.

#### Mr. Riki Ellison:

But we spent some considerable thought across all of us to come up and open those solutions to the challenges that we face and we just ended it at the peak with Taiwan. So, and the first Pacific island chain. So this was a great discussion for the public to hear, for our influencers to hear, to understand you don't get to have this kind of dialogue amongst experts like this, to be able to truly understand the problem. So I'd like each of you just to have a couple closing remarks and then we'll a call it a great day. So Jamie, I'll start with you.

#### ADM (Ret) James Foggo:

Well, Riki, thanks very much for the opportunity to be here with such a professional crowd. We have a lot of challenges out there. We have a limited number of resources. So we're going to have to come together as a nation and set those priorities and we can't go it alone. So my message here today is not just Eurocentric, but everywhere. We've got to have allies and partners. I was encouraged by what I saw in the fortnight of summitry for the last week or so in Europe, and I think we need to do the same. We started that with the quad out in the Pacific. Mark was part of that when he was J3 out there. And I think this is a way to get after great power competition and autocratic rulers and countries that want to challenge our democratic way of life and we do that as I said earlier through a position of strength. So go missile defenders, keep doing what you're doing and doing a great job. And I think the future is bright.

### Mr. Riki Ellison:

Thank you, Jamie. And just your rich tapestry of your history with missile defense, even the Formidable Shield just real special to have it in here and Tom being able to do the last exercise. It was phenomenal. So thank you very much. Mark.

### RADM (Ret) Mark Montgomery:

Riki, thanks to you and MDA for hosting this. Great to see Tom again and obviously great to always get to listen Admiral Foggo's experience. And I first want to agree with him completely. The allies and partners element something is missing... Broadly missing or largely missing over the last four years. I'm glad to see it comeback. I think it makes us a more effective country. It's what makes us unique. When the Chinese look around at their allies and partners, they have a very strong relationship with North Korea and they can let us know what that's worth. And we have a rich... We have 30 plus treaty allies and nearly a hundred partners around the world.

### RADM (Ret) Mark Montgomery:

The second thing I would say is to, we need to not overreact on the budget. We can plan for China and Russia with \$715 billion. It's not optimal. I could give you a bad plan with \$800 billion. I could probably give you a good plan with 650. So I think you can get to an effective plan with \$715 billion. We just have to make the right decisions. I would encourage the administration to look hard at what the PACOM commander says he needs in the Pacific Deterrence Initiative. It generally hasn't changed much over five to seven years through three commanders now. I think that is an indication that it's probably about right, and you're going to need to make the services, make these kinds of boring investments in exercises, training ranges, deployable base sets, logistics and some munitions. If you do that, that's a Pacific deterrence initiative. The one country that'll be studying that closely. China, just like the one country that studied EDI closer than anyone else was Russia. And those things, those investments have a deterrent effect. And obviously they have a war winning capability and capacity if you need to use them.

#### Mr. Riki Ellison:

Mark, you were great. The insight on the budget, the insight on the interplay that was phenomenal. You're obviously expertise in the Pacific was top notch. So thank you for your time and your thoughts to add to this conversation.

RADM (Ret) Mark Montgomery: Thanks, Riki.

Mr. Riki Ellison:

Tom?

#### RDML Tom Druggan:

So today we talked about missile defense and great power competition. I just want to close with great power competition. Competition for what? And ultimately this is a struggle for the type of government that is going to govern in the future and it affects all of us. And there are high stakes in this great power competition. And I truly, truly believe, having sailed the world and visited scores of foreign countries, that we in the United States actually have the right balance between individual liberties and the role of government. In our country the government is there for the individual. In the great power competition

on the other side, countries like Russia and China individuals, citizens are nothing more than a resource for the government, and that's not a country or a future that I want to live in, or that I want my two daughters to live in. Thank you, Riki.

Mr. Riki Ellison:

Thank you, Tom. We're going to close on that. That was brilliant. So thank you very much for all of you to come together and move out on this and project what's really required for us to compete. And you said it well, everyone has said it well, thank you all for taking the time today to be here. Thank you.

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