

Mr. Riki Ellison:

Good afternoon, ladies and gentlemen. Great afternoon here on the Potomac River, a crisp fall day. Welcome to our congressional round table on Air and Air Missile Defense. I'm Riki Ellison. I am the founder and chairman of the Missile Defense Advocacy Alliance. It's an Alliance I founded in 2002 after 9/11 and our decision as a nation to withdraw from the ABM Treaty. I've been involved with missile defense since 1980 and what was at the beginning of the SDIO or the SDI aspects of it. Our sole mission and our only mission is to help make our nation and the world safer by the deployment, the evolution, of missile defense and putting them in place. And as I think we can all recognize the threats around the world in the missile domain have required having this capability to stabilize and to make our world and our nation safe.

Mr. Riki Ellison:

Today is a great topic. We don't talk too much about the air domain when we've been doing missile defense over the last 40 years. And it's really a U.S. Air Force mission. And if you go back all the way until right after World War II when we got this new service called the Air Force, we created rules and responsibility for integrated air missile defense in 1948 at Key West. And at that historic meeting, they gave this new service called the United States Air Force the mission to do both air and air defense of the United States homeland as well as land-based to the United States homeland. So that's where we started. And as we progressed through time, we moved forward on this concept called missile defense in the 1980s. And we created SDIO, BMDO, and MDA. The majority of those first directors and the majority of the directors were all U.S. Air Force.

Mr. Riki Ellison:

So it's core in the mission set that the U.S. Air Force has a very dominant and cultural part of this aspect of it. So today, we're going to be very excited to bring the air to air component to this in both the sensing, the command and control, and the effectors. We want to understand it. So we want to get the best of the best, the war fighters that you have today. We want to start off at the far west of our homeland and look at the Pacific Air Force and their defense and air defense of our U.S. territory, Guam, of Hawaii, of Alaska up in that aspect of it. And then we've got to go into NORAD, into the North American continent itself; Alaska, Canada, the North American homeland. And then we will go into a very specific national guard mission, the 173rd out of Oregon, to take a look at their role and what they do.

Mr. Riki Ellison:

And then I'd like to be able to bring it back all together. And then my fellow board member, Mark Montgomery, to be able to talk about the joint part of it and the other services that integrate into that aspect of it. And lastly, we have our newest board member. Who's just retired from the deputy PACAF Commander, Ty Thomas, that will do the moderation for the Q&A at the end of the discussion. So that's how we're going to go. We're going to have about 10 minutes each. And then at the very end, we'll have a summary. And then we'll open up the floor to everybody. So we're going to go from theater to theater and we're going to start way out west.

Mr. Riki Ellison:

So I'm very honored to introduce you, Brigadier General Christopher Niemi. And these code names are better. I shouldn't say code names. Their nicknames are what I like to call it. Moto is his nickname. And he is the director of strategic plans, programs, and requirements for PACAF, in charge of the entire biggest AOR, besides Space Force in the world. So ladies and gentlemen, I'd like to introduce Moto. Moto?

Brig Gen Christopher Niemi:

Thanks, Riki. I appreciate the opportunity to be in this forum with you this morning out here in Hawaii, beautiful morning. And it's 78 degrees, just like it is every day here, all year round. So we don't get the benefit of cool falls, but there's other ones as well. I wanted to take my time to just walk the listeners through a little bit of history because I think it's helpful to frame the discussion that we're going to have. And I'd like to start with Desert Storm.

Brig Gen Christopher Niemi:

And Desert Storm was a watershed moment for the United States military, certainly for the United States Air Force in particular. The videos showed pilots employing smart weapons and laser-guided targets to precise aerial attacks. All was a marked change from past combat operations. The U.S. military and our allies weren't the only ones that watched that. Our adversaries that we spent most of our time focused on today, namely China and Russia, were also watching. And this gave them great concern because when they looked at what we were able to do in 1990, 1991 against Iraq in Desert Storm, they were projecting those capabilities into their own neighborhoods. And they were surprised by the success. They were surprised by the effectiveness.

Brig Gen Christopher Niemi:

And so China in particular, started to put a lot of time and energy into figuring out how they could ensure that we would not be able to conduct an air campaign like Desert Storm against them in the Western Pacific. I have to give them credit. They have developed and resourced and fielded a whole family of capabilities. And in many ways, these capabilities were designed to not take us on head to head, if you will, by building more fighters or building better air to air missiles or building better sensors... Although they've certainly done that as well. I think what's most remarkable about the work that they've done was the recognition of that power of precise, conventional weapons, and then developing ways to create those precise effects at range. And so namely what they've done over the years is they built an extensive portfolio of both ballistic, conventional missiles and cruise missiles with conventional warheads that just like the United States Air Force did back in 1991, they can drive through a window at will.

Brig Gen Christopher Niemi:

And these missiles have ranges that exceed a thousand miles. So they can launch from Chinese sovereign territory and they can hold many of the bases and facilities at risk that we have throughout the Western Pacific. The things that enable us to actually fight wars, not just the air bases and the ports, but the command and control facilities... So logistics, infrastructure, and things like that. And so in the past, for example, back in Desert Storm, while we had to deal with a few Scud missiles, in essence, there was never a fundamental threat to our ability to

generate the combat sorties that enabled us to project air power through the Desert Storm era campaign because they weren't able to target those facilities accurately and they didn't have the mass.

Brig Gen Christopher Niemi:

Today, China, it's a much different story. They have the ability to hold those targets at risk extensively. And so items that traditionally have not been on the front lines are now on the front lines. And so I would point as an example, large fuel storage areas. In the last 30 years since the fall of the wall, that investment has largely been guided by a desire to be cost-effective. That produced a certain efficiency, but at the same time, it created vulnerabilities because if you make a very large fuel storage area that has millions of gallons, and you're dependent maybe on contractors to distribute that fuel storage out to the users, now you have a problem if suddenly they're on the front lines and they can be vulnerable, not only at the tanks, but the ships or the trucks or whatever that are carrying that fuel. And if you keep that fuel from getting to the air bases where the airplanes are launching from, then the aircraft don't take off and you don't have to worry about all the smart weapons they may be carrying.

Brig Gen Christopher Niemi:

And so that in effect is what China has been able to accomplish over the last 30 years. I think that we were probably a little bit slow to recognize that in their department defense. Certainly we do today, but I can remember a time, a little bit more than a decade ago, when I would have a conversation like we're having today. And to be quite frank, the response most commonly was, "That's not a problem. We don't need to worry about it." Now, fortunately, we do see it's a problem and we're grappling with how to deal with it.

Brig Gen Christopher Niemi:

There are a couple of things that are very evident. I touched on the fact that our investments have traditionally been driven by cost efficiency. We have to realize that things that are cost efficient are inherently fragile. So resiliency involves multiple path lines, hardening, backups for air capability, all the things that create additional costs for our project because they provide multiple ways to accomplish whatever you need to, whether it's moving fuel to the fight or communicating with your field at forces. And those are inherently inefficient from a cost perspective because of the resilience. So we're shifting now, but there will be a bill that's associated with that.

Brig Gen Christopher Niemi:

Furthermore when you look at the numbers, which we won't get into specifics, but just the sheer numbers of missiles that a country like China has been able to field and you look at the number of interceptors that we have with our missile defense capabilities, you quickly see that we're not going to have enough interceptors to solve this problem. We can't create enough Patriots and VATs and other air defense assets in order to solve it that way. So it's going to have to be a layered approach that will allow us to go after the weapons that are being employed against us before they're shot, at the time that they're employed, in flight, and then perhaps most

importantly, recognizing that there's no way we can go back to the past where we enjoyed the opportunity to operate from what were really safe havens.

Brig Gen Christopher Niemi:

We need to make sure that when we do start absorbing some of those combat strikes, that we're able to bounce back, that we're able to be resilient, we're able to fight through it, and continue to project their power. And so that's largely what I'm focused on here in the Pacific at this time. And at that, I'll wrap up the opening comments and I look forward to the ensuing discussion. Thank you.

Mr. Riki Ellison:

Yeah. Thank you, Moto. When you describe that, can you describe our allied partners that could contribute with this? Or is it too difficult, challenging with integration of their capabilities with our capabilities to add to that volume and depth of defensive capability, as well as the offensive capability? I can see Japan very close. Australia getting there. But to really fight that fight, you have to be completely integrated to do that. Where are you guys at that?

Brig Gen Christopher Niemi:

That's a great question. So we recognize the immense value of our allies and partners. In many ways, I think that is our asymmetric advantage over China. So when you look at China, they don't have the network of allies and partners that is anywhere close to what we have for a number of reasons. What our challenge is, is we haven't had to be dependent on those allies and partners in the past to the same level that we are today. And so we're certainly spending a lot of time trying to make sure that we can engage with allies and partners, build multilateral partnerships, identify areas of shared concern in the security realm of which there are many as countries throughout the region look at an increasingly powerful China, what that potentially means for them individually.

Brig Gen Christopher Niemi:

But it also means that we probably... Well, without a doubt, we need to go back and reconsider some of our security policies. Many of our security policies date back decades to a time when we had the luxury of operating basically by ourselves and we could keep information within U.S. paths and not share it with allies and partners. And that's not possible anymore. But obviously anytime that you share information, there is a risk that that information would get to someone that you don't want to get it to. So there's a tension there, but I think that we probably need to move the needle a little bit and security policy reforms so that we can enable some of that sharing so we can leverage those assets that other countries in the region have that are very powerful and their interests obviously overlap with ours to a high degree when it comes to security concerns, vis-a-vis China.

Mr. Riki Ellison:

Thanks, Moto. I want to ask one more question. In that relationship, a good example is the E-7 Wedgetail from Australia and how that integrates. If you could just touch base on this and how important that platform is for you as an INDOPACOM position and how that integration from a

foreign ally has that sophistication that we don't. And how does that work in terms of the relationship's a little different that way?

Brig Gen Christopher Niemi:

Absolutely. So Australia is certainly one of our closest partners worldwide and most capable in terms of what they bring to the fight militarily. With regard to the E-7, which they have and they field it, and we've done some exercises with them and integrated it. It's a powerful piece of equipment. A sensor that restores our ability to see the air picture and then coordinate with the other shooter assets in order to target threats within that air picture.

Brig Gen Christopher Niemi:

I've flown the E-3. It's a wonderful aircraft. I love it. But the reality is that is a 50 year old aircraft that there is no amount of money or resources you can pour into it that will either make it reliable or make it capable of sensing at tactically relevant ranges. And so I would say that the E-7 in my opinion is probably the single most important piece in terms of our capabilities in the future for the air superiority fight. And the air superiority fight enables everything else that we're going to do because if we don't have air superiority, we're not going to be able to flow logistics in the theater, we're not going to be able to see what's going on, we're not going to be able to conduct strikes, we're not going to be able to do anti-submarine warfare with a P-8, and we're not going to be able to protect the rest of the joint force. So I think it's absolutely vital.

Mr. Riki Ellison:

So that's a strong statement. Thank you very much for a great opening statement. And thank you. Our next speaker was scheduled to be Brigadier General Paul Murray, but he got called into a four-star meeting. So we have a gentleman that's vice director of operations for NORAD to speak to us today. Colonel Kristopher Struve, callsign Torch. And this is a great transition to that part of the world, away from the Pacific to the continental United States and the North American continent, including Canada. All yours, Torch.

Col Kristopher Struve:

Thanks Mr. Ellison, I guess I'll be the second stringer today for you. And I appreciate the time today and the ability to speak to you and share a little bit of NORAD's perspective and U.S. NORTHCOM because although we are two separate commands, we are inextricably linked and we share the same commander. I want to give a little bit of background on what NORAD's mission is, which is really, it's a binational command with the U.S. and Canada. We have binational leadership. Our commander's a U.S. four-star and our deputy commander's a Canadian three-star. And NORAD's primary mission is aerospace warning, aerospace control, and maritime warning. When we say aerospace warning, that is the mission that NORAD holds really dear. And it is any attack from anywhere around the world or any perceived attack, missile launch, if you will, or any domestic civilian aircraft post 9/11 style, you could expect... NORAD holds a mission where we have to inform national leadership in a certain timeline. Does this constitute a threat against the United States, where they could then take action.

Col Kristopher Struve:

We are also in the aerospace control mission, which would be our fighters scrambling to protect our airspace and defend our airspace. And then subordinate to that own a maritime warning mission, which would be any type of a ship based threat to the United States. But the maritime control mission would be handled under NORTHCOM. One thing I didn't mention was we don't own ballistic missile engagement from a NORAD perspective. That's a NORTHCOM mission, which would be accomplished after that warning has been achieved.

Col Kristopher Struve:

And the thing that I want to highlight with NORAD is NORAD was built out of the initial parts of the Cold War back in the fifties, largely calibrated to protect against Soviet aircraft with a north warning system that would detect the bombers as they flew up over the pole to unleash their gravity nuclear weapons. It is this detection system that has been modernized over the years to try to deal with changes in threats, but it was largely recalibrated post 9/11 against the domestic internal threats. So after we saw the airline threats that created havoc on 9/11.

Col Kristopher Struve:

And so, as we've seen over the last 30 years as the general pointed out, we've seen significant advances from our adversaries. So let me talk about that and what we think about when we think about the threats to the homeland. Our potential adversaries have created significant capacity to reach us asymmetrically. Our forward layers are our allies, our partners, our forward combat and commands, the geographic commands have largely kept those threats away from the United States. But as we look into threats from cyber actors, space threats, as well as kinetic conventional cruise missiles, which have seen significant improvements on the part of China and Russia in recent years, those create avenues that can create havoc in the homeland while we are trying to project our power forward to potentially original conflict.

Col Kristopher Struve:

So the thing that I really want to emphasize here is that the homeland is not a sanctuary any longer. There are opportunities for our adversaries to employ weapons from distances that could strike critical infrastructure in the United States early in a conflict and create some challenges for us to be able to produce our military power. And when we look at our deterrence model, we've had a lot of capability really since World War II to have deterrence by punishment. That nuclear deterrent is the underpinning of our entire deterrence model. And it's that ability for us to respond in time and protect our homeland. But as our adversaries have built that capability to strike us conventionally, they feel like they have an opportunity below the nuclear threshold to strike us and potentially keep that conflict from going nuclear. And it is this avenue where we really need to work to close gaps and be able to protect the homeland more completely.

Col Kristopher Struve:

So our command is really focused on four main priorities. One of them is global integration. And it is the layers. It's being able to better integrate our planning efforts with our forward combat and commands and our allies and partners, integrating our capabilities, our systems, as well as our plans so that we can better allocate and spread our resources over large geographic areas where we need to. The next thing, which was really specific to this crowd, is that domain

awareness. Some of those weapons could be fired from very long ranges and what we really need to be able to have is a complete integrated system of integrated sensors from the seafloor to on orbit that are going to be able to detect any type of one of those threats so that we can have that warning capacity to be able to inform our national leadership and take action. And that is our number one priority right now, there are multiple systems. We try to stay systems agnostic, but there are multiple systems that are in the queue that could provide that persistent domain awareness for us to be able to detect those threats. We're also working heavily in the information dominance phase, and that would be the ability to take data from old sensors that were specifically calibrated, and leave about 90% plus of their data on the cutting room floor when they're sending their detection in, but being able to put back in processing on some of those sensors.

Col Kristopher Struve:

But integrate that with everything from intelligence to left of launch intelligence, to be able to give us more time and space options, something that every commander needs to be able to de-escalate a conflict. And you put all those things to gather, and that gives those commanders that more time and options. But something that I haven't really talked about is, what are we doing on the risk mitigation front? And that's the ability for us to actually defend. And there's two sides that we think about when we think risk mitigation. It's our ability to deny those threats. And when we talk about these kinetic conventional weapons, it's hardening redundancy resiliency on some of our critical infrastructure. Not every piece of our infrastructure is going to be taken out with one of these conventional size weapons, but some things are particularly vulnerable. And so we view this as a whole of government approach on being able to protect that infrastructure.

Col Kristopher Struve:

And then, after that we would place defenses on key critical infrastructure nodes. It's infeasible that we can place kinetic surface to air missile batteries over the entirety of the United States, Alaska, the Aleutian Islands and Canada. By the time we fielded such a system they would've found a way around it anyways. So we are working closely with the OSD and National Security Council on, where are we going to place those limited ground-based air defense assets that we'll have in time of conflict to really change our adversary's calculus about their efficacy of being able to execute an attack on the US? That can be everything from how we're organized today, which would be our fighter aircraft that are at more than a dozen, couple dozen locations across the US that can intercept conventional cruise missiles with mixes of ASA and non-ASA fighters, as well as Alaska and Canada.

Col Kristopher Struve:

It's our limited area defenses, Patriot-type missile systems that we can deploy in times of crisis, but it's also our persistent capability that we currently employ in specific areas, such as the national capital region. Those are systems that, based on increasing threats from both the air and the sea, we need to be able to continue to develop, generate, and put in those key critical infrastructure locations so that we can change that calculus of our adversaries. And I'll stop there and take any questions you have, Mr. Ellison.

Mr. Riki Ellison:

Thank you. Thank you, Torch. You know, the great players always come off that bench and take over that starter's position, so I just want to make sure I did not. I was sensitive to that. So you're all good. I do want to just recognize General VanHerck's movement with integrated deterrents and bringing, like you said, everything, cyber offense with defense into this picture. And this is something our country is doing right now. Secretary Austin, DoD, our president are looking at a new way of integrated deterrent aspect of it. So what you have put out there, that joint C2 is probably the number one thing that is it. Is NORTHCOM, NORAD driving the JADC2 to do what you just said, basically across the board?

Col Kristopher Struve:

I would say there's a couple of elements here when we talk about JADC2 and the efforts that are going on there. There are elements of JADC2 that are connecting every sensor to every shooter, and that is something that we absolutely need. But where General VanHerck is, is a little bit more at the strategic level, if you will. Imagine a pane of glass where we take all kinds of data in, into a single data pool that pulls in everything from left of launch intelligence data, those tippers and cues that might highlight that something's in action. Pull in blue data, all our logistics capabilities, our force structure, force readiness, and present that on a single pane of glass. So that when something flags in this system using enhanced data analytics, machine learning, and then as we continue to progress into artificial intelligence. Being able to highlight to an analyst things that might take us days or weeks to process that data on and determine that something's moving, if that can be flagged in a matter of minutes or hours.

Col Kristopher Struve:

And that displayed on a single pane of glass that all the COCOM J3s can talk to each other on. They don't spend their time trying to determine, is it a threat? They spend their time talking to each other on coming up with courses of action and options for our national leadership. And it just speeds up the time and gives us more options to maneuver the force, set the force, or use some sort of diplomatic solution to off ramp the crisis before we even have to get into kinetics. And we have been leading the way in that with our global information dominance experiments. We've done three of those so far, and we're going to continue to develop these tools and assessment mechanisms. There's still room to grow, and we're iterating on this thing every two weeks with new software updates. So it's an exciting time to be able to watch how we're processing data. And I really think that this is going to be the wave of the future as we move on into more complex threats.

Mr. Riki Ellison:

OK, thank you, Torch. And the public's been aware of the air intrusions, certainly up in Alaska and certainly over the Arctic. And like you said, on your piece here, we don't have that sensor capability in place. We have some of the old DEW line that's up. But now, what is the next thing to do? Is it the E-7 coming in? Is it over the horizon radars? Is it space-based? What is that, that we are missing, that can pick up what we're not being able to pick up? And then, what do you get up there to be able to negate it, if you pick it up? And that's where EX, or what's the air to air kinetic energy capabilities once you've fixed that up in the northern parts of our country?

Col Kristopher Struve:

Currently today we have a mix of the North Warning System, which is land-based radars, long and short range radars that are arrayed across the entire northern coast of the US/Canada. It's a mix of those types of sensors along with space-based sensors, and those ground radars, as well as airborne platforms such as AWACS that we would utilize to detect those threats and scramble aircraft to be able to intercept those threats. Preferably, if we had the ability to take threats out before they launched cruise missiles against the homeland, that would be preferred, but might not have that ROE in time.

Col Kristopher Struve:

But as we project into the future, it's going to be a mixture of those capabilities, new space-based systems, as well as over the horizon radars. Which is one of our priorities, based on its long range detection capabilities, as well as its persistence in its ability to detect. But you combine that with the ability to search forces, such as an E-7 Wedgetail, which has amazing capabilities, but it's not going to be the only capability that's going to be detected. It's really going to be that layered sensing grid that we're going to intertwine to get another that is going to create a much clearer picture for us and allow us to detect those threats earlier.

Mr. Riki Ellison:

Thank you. Thank you, Torch. Okay. We'll go south from you a little bit and go into one of our best fighter wings in the nation, the 173rd out of Oregon. And the National Guard mission. I think that's where the first F-15 EXs are going to be deployed. We have Colonel Jason Nalepa here, his nickname is Weave, and he's calling us from Oregon, I believe. Welcome, Weave.

Col Jason Nalepa:

Thank you, Mr. Ellison. Obviously, thanks for the kind words. Obviously, Kingsley Field here in Oregon is just a small piece of the puzzle, and same with myself. But here we're to support and add to where the Air National Guard adds to your conversation into this round table. So on behalf of the director of the Air National Guard, Lieutenant General Loh, thank you for integrating us into this conversation. And then specifically for Oregon, our TAG, General Stencel as well. Obviously, we'll get into more EX discussions later, but we'll give a broad brush of Air National Guard responsibilities for the homeland here first. Obviously, the Air National Guard, we have multiple mission sets both for not just federal opportunities and national objectives, but for those state objectives as well. We've had a busy couple two years here in the Air National Guard, and the Army National Guard in Oregon as well. And same with all the other states and all the 90 wings itself, basically supporting wildfire support.

Col Jason Nalepa:

During the summertime, hurricane support. Obviously, during the summertime as well, earthquake responses and obviously COVID responses where it's required to help our healthcare workers. As we're executing that state objective, we're also executing the national objectives as well at the same time. So the key things there for theater security packages and actually supporting the regular Air Force mission is where the gaps exist. And then also

executing other options, for instance, like presidential airborne overwatch and other alert functions. But while that's going on, the Air National Guard is, we're on task and we're awake 24/7, on alert 24/7 to support the homeland and to what Torch, as the execution arm for NORAD and NORTHCOM for the homeland defense as well. Mr. Davis, if you want to bring up that picture of the ACA responsibilities and locations there. This is an unclassified document for official use only.

Col Jason Nalepa:

Basically, what you can see there is we're the small pieces of the puzzle there in the green dots. But we can see there, that's not just... Even though Kingsley Field is an F-15 fighter training unit in supporting both the Guard and the Air Force, regular Air Force for their objectives. That's not just all F-15 locations, but also F-18. Or sorry, F-16. We got Navy support as well, joint throughout the US. And then we got obviously the F-35 that's coming online here in Vermont and other locations as they start to stand up around the continental United States. As far as other things that you don't see on that snapshot there of the continental United States, obviously have F-22s that are supporting out of Hawaii, Alaska, and out of Langley as well. So all of that, those are just the kinetic responses that we have air breathing opportunities to get to affect the intercept and affect the mission for the Air National Guard, and to support NORAD objectives.

Col Jason Nalepa:

But also what you can't see in that is the fact that we're evolving missions, both in cyber and space to wrap all those sensors and all that command and control to be able to communicate that to the shooter at the end game engagement. The key thing that you're seeing there is those green dots. There's a problem with time, distance, and space there. You got to be in the right place at the right time to affect a kinetic response on an intercept of a threat, and that takes notification. And that's not just within the Air National Guard, but working with all our joint and multi-domain partners to have the effect of command and control to get that notification in a timely fashion, to scramble the kinetic air breathing assets in position where they can affect that intercept to support the homeland.

Col Jason Nalepa:

Besides that, that is just the snapshot for what I want to talk about for the Air National Guard for now. We'll talk about some more questions as we go. Other things I wanted to integrate... Cal, you can take the ACA snapshot down for CONUS. It's not just me, like I said, as an expert at all, or a mouthpiece for the Air National Guard. We have multiple members that are experts, I'm bringing along also Lieutenant Colonel Nick Hewitt. He's the fighter squadron commander here at Kingsley Field. He also has been an expert in his trade of air superiority, both in the F-15, F-22 throughout his career. He's been in the Air Force in the Air National Guard for almost 20 years, but he's also a model citizen airman and epitomizes an Air National Guardsman as a contract role. He also has been working with integrated air defense, not just for air breathing assets and Air National Guard responses, but for joint domains as well. And the multi-layered responses, not just nationally, but what the current threat is, how we're going to combat that in future threat. So we can answer those questions as well.

Col Jason Nalepa:

And then getting into other things specific to Kingsley Field. Obviously, Mr. Ellison, you mentioned the F-15 EX is part of this conversation, and the Oregon Air National Guard were critical to ensuring that successful bed down for not just the Air National Guard, but the regular Air Force. Mr. Davis, if you want to bring up that picture of the F-15 EX that I sent you as well there, please. The key thing there is that we've seen about a year out where Kingsley Field is going to be executing that successful bed down of the C model and transition to an EX FTU, primarily focused on air superiority and then evolving into additional CONOPS as the airframe progresses within the Air Force objectives. But also within the Oregon Air National Guard, ops one is going to be Portland Air National Guard base, and the 142nd fighter wing.

Col Jason Nalepa:

So, we take upon ourselves that this is a very critical component. It looks like an F-15, it smells like an F-15, but it's a brand new platform. It does have the capability to support the national objectives and the Air National Guard objectives to have the sensors, the time on station, either even un-refueled special conformal fuel tanks, and external fuel tanks that are included in that. And then weapons, obviously you can see in the center, are included on the airframe as well. But the most important thing that we are excited about to support, not just Air National Guard, the national objectives of this bed down of this new platform, is the thing that you can't see, which is the open mission system, or the OMS, that is internal to the F-15 EX that gives that airframe the capability to break the acquisition cycle.

Col Jason Nalepa:

We've been kind of mired in where the threat evolves, it takes five to seven years to advance sensors and weapons to combat that threat. Well with the OMS for the F-15 EX, we can take evolving threats, integrate that into rapid fielding of sensors and weapons, and affect an advanced rebuttal from the threat. An advanced response without having to wait for the threat to outpace our capability. That's the overview I wanted to chat about. And thanks again, Mr. Ellison for the time. And thanks for inviting the Air National Guard.

Mr. Riki Ellison:

Thank you. From the American public perspective, does the Air National Guard defend the air to air threat to the United States, on bases on the United States? Or is it allowing the Air Force to face forward? And does that pertain to the 48, or does that pertain to Alaska? And is Alaska and Hawaii a little different, or is it the same? And obviously Guam's very different. But just, can you just talk to me, talk to all of us on that mission? Is it a clear dividing line there, or is it not?

Col Jason Nalepa:

Well, Mr. Ellison, that is a great question. As you know, being a Super Bowl champion yourself, there's not just one person in a fight, and it can't be one lineman that can execute that response. It needs to be a coordinated effort and coordinated team, and that's just not within the Air National Guard, but also multi-service and multi-command layered defense and responses. So yes, we do have the capability to support the homeland, but we are the backstop, if you will. And

there's multi-layers and multi-response capability that need to be accomplished both in kinetically and non-kinetically to affect an attrition of the threat that is coming our way.

Col Jason Nalepa:

And then whatever gets through that layered defense, where there is a backstop and as a holistic team effort for the defense of the United States. But it takes the entire defense to continue on a coordinated effort with a solid game plan. And that's exactly what Torch talked about evolving the sensors, evolving JADC2. Let's continue working where we need to so that the command and control is affected for a multi-layered protection of the homeland, so that we can actually assert global power where it's required while also supporting homeland defense. Hope that answered your question, sir.

Mr. Riki Ellison:

That does. And then the last question, when I saw all those green dots on the map. How come you and your base is being selected for the F-15EX first? Why you? Why Oregon?

Col Jason Nalepa:

Obviously, great question again, Mr. Ellison. Obviously, for the rapid fielding requirement, document for the F-15 EX, our airframe and obviously the Air Force has to achieve air superiority, we can't do it alone. It's not just F-15s, it's F-22s, it's all airframes. But those airframes are getting old. The ones we're flying right now are four decades old, well maintained and safe, but they have a shelf life. And the F-15EX gives us the capability to continue the air superiority mission. Which, at Kingsley Field, we're the only F-15C FTU feeding the Air National Guard and the RegAF the experts they need for air superiority. And then seamlessly wrapping in, as our jets age out, and now as we're executing the EX integration, we're going to focus on air superiority. But obviously it has a significant capability air to ground, multi-sensor, and things that we can't even talk about that we can evolve, both integrated throughout those nodes that we've been talking about. And bringing not just weapons to the fight, but obviously an informational node into the fight as well.

Col Jason Nalepa:

It is a brand new F-15 that can achieve air superiority and continue that in a 20,000 hour airframe, which our 40 year old airplanes that we're flying on our ramp right now have 10,000 hours. So you're talking about, yes, it is a fourth generation fighter, but a adaptable fourth generation fighter that'll take us throughout the rest of this century, where we can adapt weapons and sensors on that rapid fielding of OMS to meet not just Air National Guard objectives, but the Air Force objectives. And Kingsley Field is the focal point as the only F-15 FTU transitioning that community from C model to EX, and then evolving that discussion as we progress throughout the decade.

Mr. Riki Ellison:

Thank you.

Col Jason Nalepa:

Does that answer your question?

Mr. Riki Ellison:

It answers my question, thank you. Okay. Now, I'm going to stay with the nickname. So our next guest is Monty, that's his nickname. Mark Montgomery, he's on our board. He was the former J3 for the Indo-Pacific, also, senior policy director for Senator McCain on the SASC. He's going to bring forward the joint perspective. We've been really focused on the Air Force on one service and how the joint perspective folds into this discussion. So Mark, it's all yours, buddy.

RADM (Ret) Mark Montgomery:

Hey, thanks, Riki. I do feel a little call side deficient though here, but we'll have to work through that. Well, listen, I want to make two points here. One is about the Air Force, the other is about the joint force. The first thing is a full throated defense of procuring the E-7 Wedgetail. The E-3 AWACS aircraft, which is our current early warning surveillance air battle management aircraft, is, as was pointed out earlier, based on a 707. Extremely dated. I think we have 31 of them. I think their readiness rate, the Air Force is a little fudgy about this, but I'm going to guess about 40%. Way too low for the kind of important mission it has. And we need to upgrade ourselves, I think, to the Wedgetail, which would bring us the kind of multi-role electronic scanned array state-of-the-art communications. IFF 10, get us 10 modern air battle management consoles operating in a 737. Highly reliable, I think it's a 737, 700 for airframe operated by lots of airlines still being built, multiple services already have it in play.

RADM (Ret) Mark Montgomery:

Absolutely, to me, that restores the readiness and capability, which you can never build back into the E-3 at this point. From my perspective there's a short-term solution where we could ask the Navy with their E-2D aircraft, the Navy's ordered about 75 or so E-2D Hawkeyes. I think we have about 65 in inventory now. I would call it like the dollar store E-7, which is to say, you get all the capabilities with none of the thrills. You know, no bathroom, no racks, no coffee machine. They both had in-flight refueling, but one E-2 gets you about seven hours, the E-7's going to get you out into 12, 13 hours with its in-flight refueling. So different capabilities, only four air battle management positions, that includes the right seat pilot versus 10. So big differences in capability, in the capacity that comes in each aircraft.

RADM (Ret) Mark Montgomery:

But you would get the capability short-term. So I'm going to argue hard that the Navy needs to start thinking about E-2D short attachments and Ramstein and Anderson until we can get the E-7. Even though it's in production, it's going to take a few years for the Air Force to get their hands fully into the E-7. I think the Air Force needs to be at by 18 to 20 E-7s, two for training and then 16 to 18 out in the fleet, so to speak. So they can have five or six on a 72 hour tether, either on detachment at Guam, Anderson, but you can also put them in Australia, you can put them in Misawa in Japan, you can put them all over Europe. You can create a real dilemma for China and Russia with these. They're good swing forces, so all five or six could come to a theater of concern that are on that tether pretty rapidly.

RADM (Ret) Mark Montgomery:

And if we don't restore this, we're not going to get that kind of air battle management superiority that either Flame, Torch, or Moto was talking about earlier. We absolutely need that. So a full throated defense. I know it's going to cost money. It's going to cost more than foolishly trying to recapitalize the E-3s, but it's money that I think the Air Force is going to need to spend to enable the F-22, F-35, F-15 EX fleet. And the joint force needs to get behind the Air Force on this and make it possible if the Air Force can't do it from within their own budgets.

RADM (Ret) Mark Montgomery:

The second thing I want to emphasize is the joint mission of the defense of Guam. Guam, for a lot of reasons, has to be defended. One, it is a logistics beachhead for the Navy, Air Force, and to a lesser degree Army and Marine Corps in the Western Pacific. It is also, as it happens, US territory, with 175,000 US citizens, and we need to defend this. And it's critical that we show the capability, the capacity to defend it as part of that integrated deterrence that Moto is referring to earlier in the discussion. And I'll go further and say, this is a truly joint mission. Look, the way you do this is you do good... How did the Chinese get in, it was mentioned earlier, land-based, sub-based, ship-based, bomber-based, cruise missiles and ballistic missiles. So you've got to handle all of these issues and the way you handle it is good anti-submarine warfare. Usually conducted by the Navy. Good anti-surface warfare, conducted really by the Air Force and the Navy. Nothing looks badder to me as a Navy Security Strike Group Commander than a B-1 or B-52 with 15 to 20 LRASMs on it, right? And so the Air Force does need to get hot on getting the B-52 up on the LRASM, but having that long range, anti-ship cruise missile. But it's also a strike, having hypersonic and long range strikes against the ground, the airfields and the ground-based launch sites for Chinese missile systems, if you were to have those permissions. And then finally winning that air to air battle, having the E-7, the E-2D, enabling F-22s, F-35s, F-18s, F-15s, F-15Xs to win that fight.

RADM (Ret) Mark Montgomery:

And then of course, there'll be leakers. So if there's leakers, you need this joint defense. And to me, it's got to be anchored on the Aegis weapon system. It's a 45 year investment by the US government. It works, it doesn't work because the Navy's good, believe me. It works because MDA helped the Navy, worked with the Navy to pour money into it over years and has this capability. And I'm not talking about the Aegis Ashore that's in Poland and Romania. It's the Aegis Ashore we need for Guam. It has ballistic missile, cruise missile, hypersonic missile, and defense built into it. It's centered on Aegis Ashore but it can use Army NASAMS, Army THAAD, Army Patriot. It can work with the E-7s and the E-2Ds for that early detection, that cross threat detection.

RADM (Ret) Mark Montgomery:

There's no better radar than a radar that's looking at the side of a cruise missile. And that's going to give you real firing quality track data, 100, 200 miles away, and really increase what's called the "Probability of Kill" of your weapons systems. And it's got to have cruise missiles, anti cruise missile defense, what are called ESSMs, Evolved Sea Sparrow Missiles, SM-2s, that's got to have the ballistic missile killers, the SM-3 for the Aegis system, but also THAAD and

Patriot. And this is probably, it's got to be all work inside a command and control system that's joined. So we're going to need C2BMC, and then JADC2 to control this because the other thing is you have to integrate this with the offensive strike, right? You're going to have to, in Guam, be able to maintain the offensive strike for the first and second island chain for all those assets, Navy, Air Force, Army, and Marine Corps in theory that are forward and ready to go to that.

RADM (Ret) Mark Montgomery:

So to me, that defensive wall and system is the anchor to showing China, this is not the fight you want to pick. And that's the core of deterrence. The core deterrence is showing enough leg that the adversary understands that action by him will cause too much cost to be imposed on them in retaliation. So for me, get the E-7, help during that air-to-air war, properly from the Guam defense system, so that the joint force can flourish from the second island chain in.

Mr. Riki Ellison:

Thanks, Mike. That was great. When you look at this, is this going to set the architecture for around the world on integration of say, hypersonic strike, hypersonic defense, offense, defense in this architecture? Is it going to be the tipping point? Secondly is the... No, let me just stop with that.

RADM (Ret) Mark Montgomery:

The architecture that's going to anchor victories is JADC2. We're going to have to anchor ourselves in a joint command and control system, then you take the elements that are best for you. So the best defense of Guam, that's what I'm saying. The Aegis Ashore happens to be right for Guam. I'm not sure if I try it in Kadena in Southern Japan, where I just think they're saturated so rapidly. There's enough vertical launch systems you can build to protect that, but I think Guam it's realistic. And that's where you could bring, maybe THAAD and Patriot have a role, maybe they don't there. But the offensive strike system spread over site over the other Marianas islands, could be there. But for Europe, I think JADC2 can be used by the air force to bring together the limited army capabilities in air defense there.

RADM (Ret) Mark Montgomery:

I think in the future, NASAMS or IFPC if it ever gets fully off the ground or whatever, the air force determines they're going to use it for the defense of their bases, but it is critical that we defend the air bases and logistics sites against cruise missile threats. I really think that's a hole in our swing right now as a military, is our ability to defend air bases and fix ground logistics sites against cruise missiles. And it isn't that we can't do it. Look, we've shown that with Aegis, it's not a secret, the same cruise missiles that threatened Ramstein and Andersen, and Misawa, and Kadena. Threatened USS Ramage, USS Sargo and we have that system in Aegis to do it. So it isn't you putting an Aegis system everywhere, it is that you put JADC2 there and then bring in the elements that the joint force has to win.

Mr. Riki Ellison:

Let me ask you one final question. To those that say, why are we putting all this money in defensive Guam when China can over-saturate it, overmatch it, and why waste all that when they can take it out one spot?

RADM (Ret) Mark Montgomery:
Yeah.

Mr. Riki Ellison:
So what's the argument?

RADM (Ret) Mark Montgomery:
But that's a fair argument. I'd apply to Hawaii as well. Why to fight in Hawaii, defend Hawaii. And then, eventually I applied to San Francisco and Seattle. If the issue is the enemy can build enough missiles that we say "uncle", then we're probably all in the wrong, or we're in the wrong business, right? We absolutely have to understand what it takes to... And it is correct. I would not go all defensive against this. I wouldn't say I'm going to build enough Mark 41 vertical launch systems on Guam till it sinks or tips over whatever the old Congressman said that one day. But the reality is what we have to do is say, look, we're going to impose enough costs on you offensively. We're going to take out your launch platforms, take out the archers instead of the arrows.

RADM (Ret) Mark Montgomery:
And then when your arrows get through, we'll take out your arrows. But I would start with Guam. First of all, I would defend all our air bases as best I could in Japan. I'd ask the Japanese to do the same thing. I would recognize that that'll happen, but they may think that. What we have to do in Guam is have them understand it will not happen. Guam is sovereign US territory. We will defend this to the last, standard missile or Patriot or THAAD that we have.

Mr. Riki Ellison:
Thank you, Mark. Okay. So now, it was a great discussion. We got everybody out, we got all the thoughts out there. I want to bring it back to the air force, air-to-air domain, and to do that we're going to open this thing up to questions, but I'd like to have our newest MDAA member advisor to our board. Ty Thomas retired, Lieutenant General, deputy PACAF commander. So Ty you can bring it back and then I'd like you to moderate the question/answers from the general public to these great speakers that we have today. All yours, Ty.

Lt Gen (Ret) Jon Thomas:
Okay, great. Thanks Riki. And just great presentations by all four matched by I think, equally great questions that have come in from the audience. And so I'm going to try to summarize and wrap some of those together because some of the questions are similar and they certainly touch on the points that were brought up. But I think as Mark laid it out in the full-throated endorsement on the E-7, I think one of the things that I'd like to pull out, at least a couple of the speakers here, is a question that's been asked by the audience and a criticism quite frankly, I think that has created a little bit of churn on this is about, well the E-7 is just another iteration of

the E-3 it's a big sensor and a big platform and it's man and in a high end fight against, for example the competitor, the PRC, that General Niemi, Moto, described, isn't it vulnerable too?

Lt Gen (Ret) Jon Thomas:

And so, there's an element of how do you, answering the question about in the high end fight, how do we keep the E-7 alive? And there may be a discussion about air-to-air weapons and some of the other strengths or weaknesses that we have there that ask the speakers to talk about, but also is there value in the E-7 during daily competition. And that probably would be both for our defense in the Pacific, but also if you could comment also about the E-7s value in daily competition in defense of the Homeland. So let's start there. I'll push that over to General Niemi first for the Indo-Pacific perspective and then Colonel Struve, if you could maybe touch on that, and Monti certainly I think you got a piece of this as well.

Brig Gen Christopher Niemi:

Thanks. So I think that that concern is probably the reason that we haven't already fielded the E-7. I can remember 10 years ago advocating for something like the E-7. And that was essentially the response. I think there are a couple of things that I would offer for consideration. One is, we do recognize that the large airframe airborne assets are becoming increasingly vulnerable, but because of the capabilities in the sensors, on the E-7, we see even a contested environment, great utility to it, at least for the next 10 years. But then there are a couple other things that will make it useful. Even beyond that, even if we got to the point where the E-7 got pushed back, like the E-3 to the point where its sensors are not able to see what they need to, and therefore it wasn't particularly relevant. You still need a layered approach for command and control.

Brig Gen Christopher Niemi:

So there's a utility in having an airborne command, a control platform that can be a node for data links and communications, the quarterback of the air war, to be able to see that picture and route airplanes and tankers and ISR assets, where they need to go in real time. Particularly as warfare is trending toward more cross domain, where it's important to have someone synchronize that and we think E-7 is a big piece of it. And then furthermore, as we've alluded to specifically with regard to the cruise missile threat, these cruise missiles are generally going to come in at fairly low altitude. And what that means is you need something that can see a long way, which means the sensors have to be airborne.

Brig Gen Christopher Niemi:

And so we've looked at JLENS and we've looked at a couple other things, but there's certainly tremendous utility in a platform like E-7, when you start talking about synchronizing the assets for cruise missile defense, simply because it can see so much farther than anything that's on the ground and even things that are, like a balloon type of a platform if it's tied to the ground, you still have the same problems with regard to it's vulnerability of being struck and destroyed with long-range missile strikes and not a, certainly be an early target. So for those reasons, we still see a great deal of utility in the E-7.

Brig Gen Christopher Niemi:

We're looking at what will follow. So in this forum, we can't really talk about any details, but at what I'd offer is there is wide recognition that we need to get to the point where we can leverage based and other capabilities to have real time air, domain awareness globally that is more robust and less vulnerable to adversary attack, but obviously space is becoming a contested environment. And so there's no silver bullet solution there either because even if we had such a thing, you can bet that the Chinese and other countries would come up with a way in order to go after it and target.

Lt Gen (Ret) Jon Thomas:

Okay. Thanks Modo. Col Struve we'll give you a shot at that.

Col Kristopher Struve:

Sure I'll offer a couple of perspectives. I'll piggyback on the no silver bullet, and that's why we really need that layered approach for detection. Every single system we purchased is going to have a vulnerability in some regard, and E-7 is not immune to that vulnerability. Just as an OTHR is going to have vulnerability, everything's got vulnerabilities in different avenues. I will say though, having flown in the Pacific for a large portion of my career and flown with the E-7 numerous times, it does bring a fantastic capability to help out our war fighters as they're executing their mission. I want to touch a little bit on the other question you asked, which was the value of the E-7 and competition. And I would say, when we're in competition that deterrent effect is created by the capacity for us to highlight and show that we have an ability to detect threats, protect against those threats, and then ultimately defend against those threats if needed.

Col Kristopher Struve:

The E-7 can bring a fantastic capability to that. It doesn't bring the only capability to that. And the perspective that we think about is that persistent wide area surveillance that is really going to cover the expanse of all the avenues approach that we have in North America. From either airborne platforms or sea-based platforms that can launch those long range cruise missiles as well. And then the last point I'll piggyback on, which would be the C2 capabilities that an E-7 can bring, significant challenges in the high north and being able to communicate over those long range distances, and airborne platforms can help bridge that gap in comms and data links and all those various means. But certainly an amazing capability to bring to the fight.

RADM (Ret) Mark Montgomery:

Hey, Ty, I will take a quick jump on this. So two things, one, when I was on the Senate Armed Services Committee, we were pushing hard for an E-8 replacement with the same logic. The air force successfully defeated us with the, "don't worry a space-based GMTI capability will replace the E-8." Anyone who thinks that's still happening can spike the ball and leave the room now. But we know that in the end, space base will happen, but when it matures to the level that's required for GMTI is going to be awhile and I think AMTI is even harder, and you don't get the C2 advancement that Moto and Torch talked about. I throw in one other thing, I do like the step back idea. In other words it has this competition role.

RADM (Ret) Mark Montgomery:

And unlike say an aircraft carrier where they step back, in other words getting out of the range, as you recognize you're shifting from phase one to phase two warfare, the carrier takes a day. It's going to take the E-7 just get low and get down to four or 5,000 feet and go out and you're going to be fighting against the threats we're worried about. Final thing I'd say, in phase two for war fighting, yes things are going to be shot down and yes, people aren't going to be lost.

RADM (Ret) Mark Montgomery:

I would say a 14 or 15 person aircraft, while it sounds to the air force like a lot, to the Navy, army, and Marine Corps it's actually a small unit. And I don't want to sound dismissive about this, but I'm sure the air force is absolutely fine managing that risk and figuring out how they set the altitude they fight at whether they're doing C2, whether they're doing ABM, air battle management, they'll figure it out and take that risk and get the return that's necessary from that. And if we apply that logic to everything else, then the Air Force will be enabled, it will just be unmanned aircraft in a few years. And we all know that's not actually the right answer, but there's a balance in all this that has to be achieved.

RADM (Ret) Mark Montgomery:

So until we get a really meaningful space-based AMTI capability, and I think that's more than a decade away, maybe even two decades away, we're going to have to press forward with this. And I think the E-7 is a perfect buy. One thing I will mention is I think not only does the RAF have it, but as we know the almost same version is with the UK. There's some different versions with South Korea and Turkey, but most importantly NATO is operating the same 707s, they have glass cockpits. They're a little sleeker looking, but they have the same readiness capability challenge that the USA AWACS has, and those I think 14 aircraft need replacement as well. If we go to the E-7 that really drives the NATO AWACS capability, the same kind of solution.

Lt Gen (Ret) Jon Thomas:

Okay, great thanks Mark. Yeah, I think we all have seen that in the space domain launch capability has really moved quickly. I don't know that the sensing and some of the other missions that come out of that domain have done the same. So I tend to agree with your sentiment. I do have to, before we move off this one, Moto I'm going to disagree with you on a statement you made. Maybe because I think you were looking at it through the lens of the back when you were at the third wing, but you called the E-3 a lovely aircraft. I would say it was a lovely aircraft decades ago. It's a liability now. And on the daily competition thing, you've got gaps in domain awareness in your theater right now. And when the E-3 can't get airborne to provide that air domain awareness, it's really hard for the theater joint force air component commander to figure out what exactly he needs to do, and what he needs to put where in response to adversary actions.

Lt Gen (Ret) Jon Thomas:

So, okay. So next one I'll move on. It's a synthesis of some of the questions that came in about the F-15EX, and again going back I want to see if you'll talk a little bit about our air-to-air

weapons. But the one I want to pose to you and maybe for this set of speakers it may be obvious but maybe for the broader audience, do you need a fifth gen platform for air superiority, either in the Western Pacific or for the defense of the Homeland? What is the machine? It doesn't have to be a given machine, but what are the qualities that you need and where are they available. Over. I'll let anyone start on that.

Brig Gen Christopher Niemi:

I'll jump in. So there's nothing magical about a fifth gen or six gen to a certain degree, I think that's kind of been a branding. But what is clear is that we're being outpaced with technology. So when you look at the broader trend, there is no doubt that it's becoming harder and harder for assets to permeate air defenses. Airborne assets permeate air defenses, so the long-term trend that I see if you go from Vietnam, to Desert Storm to today, is that it's not impermeable, but it's becoming a lot harder and it's costing more money. And so that's why you're seeing the growth of longer range weapons, whether it's air-to-air weapons, or air-to-surface weapons, or surface-to-air weapons. I do see utility in the new, old F-15EX because a platform like that is very flexible.

Brig Gen Christopher Niemi:

Particularly with the open architecture, you can bolt new things onto it. It can carry big long missiles that maybe are not in development yet, but will be fielding in another decade. And so it provides a flexibility that typically is not there for your fifth generation platforms that prioritize their signature. That said, there's nothing you're going to do to make an F-15EX survive in the kind of threat environment that we're focused on in the Western Pacific. So it's going to be a standoff shooter if you will, but there's still utility in having platforms that have that.

Brig Gen Christopher Niemi:

And there's certainly utility when you get away from that very dense threat environment, like when you're talking Homeland defense and other missions that we need to do as a nation. For the fifth gen in particular, although they surface threats and the environment is getting tougher to operate, it still gives you more trade space than you have with an aircraft, like an F-16 or even an F-15EX. And so it's a balance and it's a layered approach, and I think that there's room for both a fifth and eventually a six gen solution, that'll allow us to get closer to the threat and to operate in areas where it's simply not possible for other aircraft to operate, but there's also room for the capacity and the flexibility that an airplane like the F-15EX offers.

Lt Gen (Ret) Jon Thomas:

Okay, thanks, Moto. Yeah. Col Nalepa I just saw you pop up and I was going to call on you. This is what you do for a living. What are your thoughts on that?

Col Jason Nalepa:

Yes, sir. I'd say it's what effect do we need to achieve? So if it's just as the General said, a contested environment is different from our permissive environment. But what I can tell you is we need to have options open because if we put all our eggs in one basket, we will lose the fight. So we need to have layered effects and layered capabilities with different platforms that

can now work synergistically to minimize the seams in those capabilities. And also even if the contested environment, yes the EX will probably be a standoff type platform until it becomes permissible. But if EXs are airborne, then fifth gen or six gen, or NGAD, they're not looking at them. They're looking at the big, shiny F-15EX with everything hanging off it there. It enables the capability of other fighters. When you wrap the layered effects and layered capabilities of different platforms. Over.

RADM (Ret) Mark Montgomery:

Hey Ty, if I get one little piece of Navy, I mean look, the Air Force shouldn't take its guidance from Naval Aviation but I'll say they dealt with this probably about eight years ago when the original plan was to buy, make every air carrier, air wing three or four, F-35 squadrons, fighter attacks squadrons because numbers had to come off of that. Now it's two fighter attack squadrons, two F-35 squadrons, two F-18 Super Hornet squadrons. But the feeling is that the F-35 can enable the F-18s to do more than they could have done on their own. Can they do everything an F-35 can do? No.

RADM (Ret) Mark Montgomery:

But when you combine that with the E-2D or in the case of the air force an E-7, or maybe [inaudible 01:09:53] in the area, I think it allows you to create temporal air dominance, not permanent, not geographically everywhere, but in a geographic specific area to air dominance for the F-15EX or the Super Hornet is survivable. Now look, is that a guarantee? No. Is it perpetual? No. But temporarily I think these things could work together. And if there's any service, any country that can work this out and make one enabled and other effectively, I think it's the US Air Force, the Navy, the US Navy Naval aviation.

Lt Gen (Ret) Jon Thomas:

Okay, great. Thanks Marty. I'm glad you brought up the... I've got a frozen screen for him. So I don't know, Kyle, if you all are still connected there, but for the rest of the audience, it seems like the air force especially some of the messaging that's come out of General Brown and the headquarters Air Force staff about a future fighter mix.

RADM (Ret) Mark Montgomery:

Hey Ty, can you hear us now?

Lt Gen (Ret) Jon Thomas:

Now I can hear you Marti, I don't know if you were continuing your statement. It sounded like you might've stopped. Go ahead. Over.

RADM (Ret) Mark Montgomery:

Ty?

Lt Gen (Ret) Jon Thomas:

Yeah. Okay. Your screen's frozen. I just heard you say something, Riki. I'm going to go ahead and continue to,

RADM (Ret) Mark Montgomery:
Hey Ty, can you hear us now?

Lt Gen (Ret) Jon Thomas:
I can hear you go ahead.

RADM (Ret) Mark Montgomery:
Good. Ty, I think you got us, I think Lockheed Martin jammed that last transmission for me about enabling the F35, but I'll go ahead and pass it back to you.

Lt Gen (Ret) Jon Thomas:
Okay, great. Thanks. Yeah. What I was saying is that it's interesting you bring up that historical data point on a decision the Navy made about their fighter mix because I sense the US Air Force has moved to that point as well. They've articulated a plan for a four fighter mix, NGAD, whatever next generation air dominance turns out to be, F-35, F-15EX, and then something that they're called multirole-X, whether it's F-16 varying a low end fourth gen type fighter. I sense they've made the same type of decision. Okay. So we've got Riki, as I see it, probably about 20 more minutes. I want to throw out a pretty weighty one that Monti touched on a little bit. And actually, Monty, I'm going to give you a chance to talk through, and then open it up to the other speakers. But I'll use the scenario from the Pacific, but it could be very the same thing in Europe or AFCENT, whether it's ... USAFE-AFAFRICA is operating from a Czech air base, and they're in a conflict with the Russians. Or you're out there in the Pacific and General Niemi and the team out there are having to operate from individual air bases on remote and austere islands.

Lt Gen (Ret) Jon Thomas:
Now the Marine Corps' got a similar concept, right? And it's called Expeditionary Air Base Operations. And the Marine Corps actually has some tactical assets that can provide limited, but some capability for cruise missile defense that is organic to the United States Marine Corps. I don't know that the United States Air Force has anything like that to go with their units that would go to the agile combat employment, remote austere airfields in the Pacific or in Europe.

Lt Gen (Ret) Jon Thomas:
What's the answer to that? Is that, "Hey, we've got to get the army to jump on board on top of all the other multiple missions that they've got?" Is the answer that the Air Force is just going to have to go passive defenses only, get three out of the four pillars of integrated air missile defense when they operate from there? Or is there a legitimate need for the US Air Force to take on and have the role and the resourcing to be able to provide some limited form of cruise missile defense at a forward site? Monty, over to you.

RADM (Ret) Mark Montgomery:
Yeah. And then I'd be interested in Moto's thoughts on this. Because I do think both to their credit, USAFE and PACAF thought hard about this. I mean, you go back to Rapid Raptor Deployments we do with two and four plane detachments. The deployable air base systems, which because of EDI was paid for on OCO, we've bought in good numbers for Europe. But

because there is no OCO for the Pacific, the Air Force has found themselves a little more tight-fisted about buying for the Pacific. But I think we'll eventually buy using the Pacific Deterrents Initiative, is the push. I think agile combat employment's critical. I think, yeah, I'm not sure the Air Force is ready to be quite the Marine Corps where they're laying down arresting gear, arresting wires, so they can operate at even shorter air fields.

RADM (Ret) Mark Montgomery:

But I do think that agile combat deployment's going to be usable from 25 to 30 Japanese airfields, either military or non-military airfields throughout Japan. 15 to 20 in the Philippines. Four or five just because of geography in Australia. And create real targeting dilemmas for the Chinese. So I would add a fifth layer to that kind of integrated air missile defense, which is the rules of engagement that China has to decide they're willing to violate. Are they willing to attack civilian airfields in the Philippines and in Japan, and in Australia from which we were operating? And does that draw that other adversary deeper into the ... That are the ally of ours, the adversary, the Chinese deeper into the conflict. But then your core question is, do we have mobile air base defense?

RADM (Ret) Mark Montgomery:

Look, what the Marine Corps can pop up at an airfield right now will not stop the high end cruise missile concern that we have from Russia or China. But we're talking about China here. I do think we have to decide ... If the Army eventually gets NASAMS at numbers, which can be Humvee supported, and can be loaded in a certain number of C17, a smaller number of C17 flights. It's not like a Patriot with the numbers you need for that kind of detachment. It could be agile ... It could be agile and it could be combat employable with the Air Force. I think over time, the Air Force, and this gets into the rules of mission issue, is the Air Force at some point saying, "You know what, Army. It's been a while since you've developed a functioning air defense system. It's been since iHawk since you've been really committed to this. It's been almost 20 years, 25 years. We're going to go it alone and defend our own air bases with us."

RADM (Ret) Mark Montgomery:

I would just say, you have to be assigned that mission. The ROC has to change, the JROC has to change, you have to be assigned that mission, assigned the budget line, given fresh resources, not salami slices out of existing program resources, and take that mission on. And it does leave an ugly little problem, which is who defends the logistics bases, right? Because the Army had two missions here. One was to defend ... Basically when it came down to it, it was to defend your bases and ... Or defend air bases and defend logistics, fix logistics sites. I'm not sure the Air Force really wants to sign up for the fixed logistics sites mission on top of the air base mission. But I'm pretty sure whoever takes the air base mission's going to have the other one. So this is a really challenging roles and missions issue that I think we'd be well served if General Hyten took this on and added it into the JROC review. And said, "How do we do this?"

RADM (Ret) Mark Montgomery:

Because we got the Navy ships kind of settled. That's figured out. The Navy will defend Navy ships. And we've got the combat maneuver units of the Army settled. They've built and invested

in M-SHORAD. But this whole airbase and logistics based defense issue is a real, like I said, it's a hole in our swing as a batter. And if we don't get at it, we're going to be in trouble. And I understand why General Goldfein thought hard, and I think General Wolters has asked, and others, "Hey, are we going to do this as an Air Force?" And my answer is maybe, but it needs to be driven by roles and mission review that assigns it to the Air Force, so they get the resources they need to succeed.

Lt Gen (Ret) Jon Thomas:

Okay. Thanks, Monty. And I think some of the speakers in the positions they're at, it could be a difficult question to answer. But I'll put it this way. Do you agree with Admiral Montgomery that there's a hole in our swing in this? If it is, then if you agree, then something's got to be done about it. Over. Moto looks like you're ready with a key to the mic. Go ahead.

Brig Gen Christopher Niemi:

All right. Thank you. So I'll take the easy one first. ACE is essential. We're moving out on it. That's my top priority in my current position is to continue to advance the ball, and make it more capable than it is today. We've made a lot of good progress, but there's lots of work left to do. As you kind of laid out, starting with the ready Raptor. And another thing that I think is important to consider, and I offer this particularly for the ACE naysayers. Our response ... Or the response from people in that camp has largely been, "We'll just kind of keep backing up." But I absolutely agree with you. It's a matter of time until not only Hawaii, but San Francisco and other CONUS bases are at risk. It's not hard to imagine submarines launching cruise missiles. They will have the same devastating effects at our CONUS bases as they currently have at our forward deployed bases.

Brig Gen Christopher Niemi:

So this is not a problem that's going away. And we're going to have to deal with it and work our way through it. With regard to the roles and missions. I think what our problem is, I'll describe the problem rather than what I think the solution is. I think the problem is that we all recognize how warfare is starting to become more cross domain and less segmented. So certainly in World War II and even through Desert Storm, we largely could compartmentalize the air and the sea, and the land. And they were synchronized under the JTF, but they didn't have to be synchronized in real-time. And so in Desert Storm, you had the ability to run the air war through the CAOC. And effectively General Schwartzkoff could provide guidance and get updates. But he wasn't the one making decisions in the air war, because the air war could be delegated. And the timeline allowed that.

Brig Gen Christopher Niemi:

What I see is as the pace of combat is increasing, the decision cycles getting faster and faster. And whoever can turn that classic OODA loop more quickly is the one that's going to win. We need to be able to have a construct that allows the commanders to capitalize on not only fires, for example, within the air component. But fires from sea, fires from land. We're not organized that way. And so the solution needs to recognize the fact that we fund things through services, and the services historically will pay for what's most important to them and not what they believe

is important to the joint force if it's an either/or, which it certainly will be in the budget environment. And we need to recognize the fact that control, whether it's missile defense or offensive fires, is now spanning all of the services. And so this idea that you would have just a JFACC, or a JFMCC, or a JFLCC that could do that, I think is something we need to reconsider.

Lt Gen (Ret) Jon Thomas:

Okay. Thanks, General Niemi. I can't tell if, Colonel Struve, if you're moving your lips because you're trying to talk. But I'll open up anybody else, if they want to comment on this one. Riki, I think we have time for one more kind of meaty one after this. But anybody else on this particular air base air defense issue?

Col Kristopher Struve:

Sir, I was just nodding vertically with what Moto said. I guess what I would say when we talk about the Homeland specifically is, they can reach out and touch us now kinetically from the sea or from the air. And so when we think about what our role and mission is here at NORAD/NORTHCOM, it's to be able to project our power forward and defend our critical infrastructure. And we've got to have our installations to be able to do that, to be able to project our power. So there has to be some modicum of defense at some level. And we have to be able to defend those key nodes so that we can continue to do that.

Lt Gen (Ret) Jon Thomas:

Okay. Thanks, Torch. So the last one, we've had three questions that have come in specific on hypersonics. And I think what the audience is really focusing on is the fact that they're ... In a sense they're neither fish nor fowl for what we prepared for before. We are prepared to take on ballistic missiles of all ranges to an extent. And we are prepared to take on cruise missiles, subsonic, and even not accessibly maneuvering supersonic. But the hypersonic bridges the two, and they create a very difficult tactical problem for us. And so actually, Colonel Struve, I'll start with you. And then maybe we can go around to others. But what can you tell the audience about what we're trying to do? We're able to deal with hypersonic threats. Over.

Col Kristopher Struve:

So convenient that just in the press this morning, that the discussion about the hypersonic launch this past summer. It's certainly concerning, because that has a global reach implications and can impact you from many access. The thing that concerns us with hypersonics is our warning time and our warning capability. As these things launch high and then cruise at a lower altitude than we'd see our normal ICBMs. So it's that ability to provide warning to our national leadership of what that threat is. And then it's really a policy on, do we want to enact technology to be able to intercept and defeat them? Or do we want to treat them underneath our nuclear umbrella? I think it is probably a great discussion. Very different from a regional hypersonic threat. But as we see the proliferation of conventional and nuclear hypersonics, I think that's an avenue that we need to be able to go down, which is that first detection capability, and then what do we want to do to defend against them.

RADM (Ret) Mark Montgomery:

Hey, let me just jump in here and say I don't think Moto or General Wolters and his team in Europe have the luxury of that, of the nuclear blanket as a potential solution. So we're going to have to have technological solutions for the regional challenge. Which means we'll have to have technological solutions. I'm not worried. Look, I already am comfortable that Aegis will ... Or as an example, and it's not the only good system in our country. We'll have the ability to handle elements of hypersonic defense. I think we will need better, more agile, more speedy space based inputs into the system that get the war fighter to the tactical systems rapidly. And I think narrowing that time, the amount of microseconds or milliseconds it takes for the delivery of that information is going to be critical.

RADM (Ret) Mark Montgomery:

And I'm comfortable though that this is not something that particularly the Navy and the Air Force haven't had, and the Army haven't had to deal with in the past, this kind of technological movement. I'm comfortable. I can already see with SPY-6 and SPY-7 on the Aegis, some capabilities are coming. And then I can imagine how improving our space base will do it. And look, the adversary, we should be concerned. The adversary, as was mentioned earlier, I think by several of the speakers, worked hard 15, 20 years ago to find the holes in our swing developing systems to exploit that. This is another one. And we'll just have to make technological advancements to get to it. But I'm comfortable. The basis already exists in MDA and in the Navy. And I know it can exist in all the services to have this capability and capacity in hypersonic defense over the next decade.

Lt Gen (Ret) Jon Thomas:

Okay. Thanks, Monty. Any others want to touch on the hypersonic question?

Brig Gen Christopher Niemi:

I would only pile on to say that in the past, we put a lot of confidence in our assessment of what an adversary like China will do in the future. And we use that to inform how we want to make our investments. And one of the lessons I have taken from my own experience is, perhaps we should look at what is possible from a physics perspective, as opposed to what we think they're going to do. Because China, again and again, has proven that if it is possible within physics and it will surface another hole in our swing, that they will do it. And so going forward, it's interesting to me. Requirements I often see continue to make assumptions that I think are very dangerous. And we should probably shift our mentality more towards assessing what is possible from a physics perspective and intent with regard to how we build our future forces.

Lt Gen (Ret) Jon Thomas:

Okay, great. Thanks Modo. Okay. So Riki, I'm just about to hand it off to you. I think I will provide some closing comments. But I will offer one thought that we weren't able to get too deep into. But to a great extent, it's informed by my own recent experience. And it touches on the cruise missile threat, and particularly the comments by General Niemi about the PRC. Because as we look at great power competitors, they're not all created the same. That's pretty obvious. Their avenues of approach though aren't all created the same either. The Russians have a huge advantage in terms of at least air delivered cruise missiles, in terms of their avenues approach.

They have the entire Polar region to come across should they choose to do that? PRC is a totally different situation. I mean, there's only certain places where they can go through to be able to get with their existing systems to hold targets at risk at range.

Lt Gen (Ret) Jon Thomas:

And my point here is that we should as we're having these discussions, that forward presence, the daily competition, which can lead to deterrence as Monty mentioned a couple times, is an absolutely critical part of it. And so I just wanted to finish with that to point out the importance of understanding ourselves, as well as the potential adversary. And making sure that our responses are tooled specifically for those. And sometimes it's as simple as just covering certain parts, rather than trying to do everything. So Riki, back over to you to wrap up.

Mr. Riki Ellison:

Thanks, Ty. This was overwhelming in the richness of the conversation, in the diversity of the subject material that you guys all covered. So, really spectacular. I mean, much more than I would've thought could have come out of it. You did great. So I'd like each of you, the speaking order we'll go down for closing comments. And then we'll wrap it up. But it was great information that our public, our decision makers need to listen to, to process. And to get these perspectives, I really haven't heard them like this as they were today. So I'll start off with you Moto for any closing comments that you would like.

Brig Gen Christopher Niemi:

Thanks, Riki. I appreciate the opportunity to participate in the forum. I think that these are essential as we kind of shine a light on what the problems are, and educate stakeholders across the environment. If people don't understand what we're thinking and why we're thinking, and what the problems are and what we're trying to do, then we probably aren't going to be able to get the resources we need. In the past, I think we've let our desire to control information be an unnecessary barrier to some of these. So obviously, everything that we talked about today is available open source. And it's clearly well understood by our adversaries that were the focus of so much of the conversation. So given that fact and that reality, even though some of these things are a little uncomfortable, I think it's essential for us to have frank conversations not that reveal everything, but that are much more comprehensive than has been the case in the past. And this was a good opportunity. So thank you very much.

Mr. Riki Ellison:

Thank you, Moto. Torch?

Col Kristopher Struve:

Mr. Ellison and team, I want to thank you as well for the opportunity to talk and share a little bit of NORAD and NORTHCOM's perspective. What I would say is, we talked a lot about threats and a lot about gaps today. The threats have become much more matrixed, complex, and even nuanced at times. But I do want to highlight that we still have an amazing capability to defend the United States from those adversaries, from all axes, all directions and all these threats. We're talking a lot on the margins here about future capabilities. Capabilities that are just emerging, that are going to help us close gaps, and even create an even greater capacity for us

to be able to defend. But it's all going to start with that earlier processing and detection of threats, and our ability to process data faster than our adversaries. And that's going to make us even better and give us more options so that we don't ever have to get into conflict. And we can just keep ourselves on the competition side or less than. Over. Thanks.

Mr. Riki Ellison:

Thank you, Torch. Weed?

Col Jason Nalepa:

Yes, sir, Mr. Ellison and team. Thank you. Honored to be a part of this panel. Also, thank you from General Loh for inviting the Air National Guard to the table. And that's the key thing is that the Air National Guard is a small piece, but we all have a piece. And I want to highlight the fact that everybody needs to be working on the same page to affect different layers of capability, and keep everybody informed about what the goals are for Homeland defense. Because we're here to support Homeland defense, but it can't ... It's not just us as the backstop. It's everybody in the layer of defense that are working together to achieve the same objective. Over.

Mr. Riki Ellison:

Thank you, Weed. Okay, Marty.

RADM (Ret) Mark Montgomery:

Okay, thanks. I think today we were talking a lot about how you deter a major power like China or Russia from taking actions. And we gave a few good, very tactical examples here. The E-7 from the Air Force, the Army's army investing and succeeding in IFPC and maybe with a gap filler like NASAM, so they can do air defense. And then very China specific, defending Guam. I think if we make these investments, if we're targeted in this, we can in a fiscally responsible way create the conditions that deter China or Russia from taking inappropriate action.

Mr. Riki Ellison:

Thank you, Mark. Ty?

Lt Gen (Ret) Ty Thomas:

Nothing else to add, Riki, other than glad to be part of this. And glad to be part of the MDAA team. Over to you.

Mr. Riki Ellison:

Thanks, Ty. Well, ladies and gentlemen, we are attacking the roles and responsibilities integrated in our missile defense. And for the reasons that you heard today, we are pushing this forward to Congress, the Administration, our war fighters. It's the right time to do this. We did this when the Air Force came in with a weapon that was called the German V-1, and a depressed economy afterwards. We're in a similar situation. And our roles and responsibilities for us to compete and win have to be changed. And I think this is the right time to do it. And the conversation certainly helped to move this along. I appreciate your candor. I appreciate your service. Thank you for enlightening all of us on the depth and importance of our national

security of our nation through what we talked about today. So thank you very much. You guys have a great day. And goodbye.