

Mr. Riki Ellison:

Good morning, ladies gentlemen, I'm Riki Ellison. I'm the founder and chairman of the Missile Defense Advocacy Alliance, an alliance I founded in 2002 with the sole mission making our country and our nation safe by the deployment, the evolution, development of missile defense capabilities. I've been involved with Missile Defense since 1980 at the inception of the Strategic Defense Initiative, SDIO, under President Reagan's team, in terms of critical thinking on that. I am calling you today from the state of Arizona. It's a very special place. I grew up here, spent a decade of my life here, and I went to a one room schoolhouse, with an Indian reservation, and the local cowboys. The foreman of the ranch was probably my number one role model of my life, and he was a Sherman tank commander under General Patton in World War II and led some of the first intrusions into Germany, including the Battle of the Bulge. And as a young boy, listening to the atrocities of the World War really has guided a deep set notion forever and ever to never have a world war happen again.

Mr. Riki Ellison:

And this is where we're at. And you can see on the fringes of the world today, we are very close to that. And to deter someone who's struggling right now, deterring Russia, deterring China. You obviously have to be able to impose costs, but you have to deny their cost on you. And you have to communicate that. We are not in a good position on denying cost right now. From what we're seeing, that's being displayed this year in particular. Fifteen hundred plus missiles, ballistic missiles killing people today and Western civilization doesn't have an answer for that. That has to be addressed. And we're seeing North Korea testing to intimidate us, leverage us. We're seeing China over matching by multiples of missile capability to enforce their will upon us and we're seeing in the CENTCOM, the Middle East, continual use of missiles and rockets. That is the weapon of choice today. There's no question about it and it's going to continue to be the weapon of choice.

Mr. Riki Ellison:

And right now we are not prepared to handle all of this. We lack capacity. We lack capability development. We've been living in a world over the past 20 years where there hasn't been a core, major threat to us, a world war threat to us. But we let these things go. We've become capability-based acquisition. We have not been threat-based acquisition today, right? There has to be change made and we're delivering that process. We want a discussion with our Congress, with our president, with our administration, to be able to readdress the roles and responsibilities of integrating an air missile defense. We have not put a formal agreement.

Mr. Riki Ellison:

The last time we did this was 1948 at Key West. It was two years after a brand new service, the Air Force was created. Right after World War II. It was the movement that we saw at the end of World War II with V1 cruise missiles. And that's the last time we've done this. Here we are, where we've got a new threat on top of all the cruise missiles and all the ballistic missiles. We've got a hypersonic threat that we don't have a defense for yet. We've got a new service, the Space Force that doesn't have the roles and responsibilities assigned to it yet on missile defense.

Mr. Riki Ellison:

And we've got a declining budget and we've got to figure out how to do this better. We cannot do what we're doing with missile defense, spread all over the services, duplicating efforts and not be efficient and giving capability out to the war fighter. COCOMs, they're not giving what they want to do their

mission of defending their capabilities and project forces forward. You've seen this in Europe. You're seeing this in first and second island chains. And most importantly, our Western world is not protecting our populations. I mean, Ukraine is showing that... It's just devastating to know that we have the capability. We have technology to be able to defeat anything they're throwing at us right now. And that's not being used. It wasn't thought through. It wasn't put in place forward.

Mr. Riki Ellison:

So we have to change that. So we wrote a paper. This is a report that we spent over a year on. And the intent is to make our world a safer place by putting forward a defining historical report on the history of what we did with air and missile defense and really where it's gone off balance. And I've been involved, like I said, since 1980, where a lot of these decisions on that paper have been made. And yes, we stepped back, and we took the best of the best from those relationships all the way back to the eighties and seventies, and sixties to contribute to this paper. And yes, we went out to all the services, all the services, and asked for their input and reflection. Including the agencies, including Congress, including the experts to really refine this paper to be the best we could possibly do to start the discussion and the debate that this country has to have to get this right. And we have a great team. I'm a big believer in teams and the diversity of thought in our missile defense team here at MDA is exceptional in this.

Mr. Riki Ellison:

And you'll hear them today. They contributed to writing this paper, but we had a million edits on it, but it's the right time. It's the right time now. Wasn't the right time six months ago. It's the right time now to make change. So today we're going to explain the concepts of what that paper is. Yes, we put forward some recommendations. They may not be the end or the final product of our country's decision making, but they are a start to make our country, our smartest, to be able to understand it and make the right decisions. We have to have this discussion. We have to have this debate and we have to change the roles and responsibilities of missile defense today. So we're going to lose, and we're going to lose big and there could be a world war coming if we don't do this. This is our segment.

Mr. Riki Ellison:

I know it's a very sober note but I'm going to pass it now to another fellow Arizonan. John Rood went to high school as well here in the state of Arizona. John's a former undersecretary. That's awesome. John the floor is yours.

Mr. John Rood:

Well, it's great to be with you, Riki. And I wish I could be there in my home state of Arizona with you. I was born and raised in Arizona and that's where my heart still resides. It's wonderful that you're out west and that Western spirit that you bring to the defense of our country is really just a great contribution. First, I want to thank you and congratulate you, Riki, on getting today's report out. It's a really significant study and I think a real achievement for MDAA under your leadership to get that out.

Mr. John Rood:

There are a few points I wanted to highlight from the report and just bring to everybody's attention. I think first, it can't be overstated that we are witnessing the evolution of modern warfare and seeing the heavy use of missiles as a primary instrument of warfare. The war in Ukraine is just the latest example where Russia is using large numbers of missiles to strike targets in Ukraine.

Mr. John Rood:

As you recall, on one of the MDAA round tables like this on March 30th, U.S. Army Major General, Jamie Gerard indicated that Russia had conducted over 1,300 ballistic crews and hypersonic missile attacks in Ukraine. And of course there have been more since that time. These missile attacks, I would argue, had a much greater impact on the war than the other types of more traditional military forces that Russia has used such as thousands of tanks and armored vehicles, helicopter attacks, airborne troop drops and naval force attacks. Missile attacks today are a primary method of warfare and Russia is using them in this conflict. They are a central component of modern warfare and its further evidence of why defending and attacking this threat needs to play a more central role in U.S. defense planning.

Mr. John Rood:

As we saw earlier this year in the Middle East, it isn't a trend where missiles are a primary instrument of warfare that's limited just to Russia and Ukraine. The frequency of missile attacks and intercepts in the Middle East by allies in my view has really been underreported by the U.S. media. There have been some press articles though, such as the Wall Street Journal article on December 7th in 2021, which described the high volume of attacks we're seeing in the Middle East. And that Wall Street Journal article said, and I quote, "Over the last several months, Saudi Arabia has been attacked by nearly a dozen ballistic missile and drone strikes launched each week by the Yemen based Houthi rebels." End quote. Tim Lenderking, the U.S. Special Envoy for Yemen, who's a friend and colleague stated that the Houthis have conducted 375 of these cross border attacks into Saudi Arabia in 2021. This is simply a huge volume of missile and drone attacks.

Mr. John Rood:

And of course the Houthis haven't limited their attacks only to attacks on the Saudis. They've also attacked U.S. forces in the region with the U.S. and UAE crews successfully using THAAD and Patriot systems to defend our troops against those attacks. Houthis are conducting these attacks. They're backed by Iran and it's with Iranian assistance that they've developed and received these weapons. Large volumes of Iranian weapons have been seized by the U.S. and other international forces en route to the Houthis, including missiles and drones.

Mr. John Rood:

During my tenure, I would add, in the Pentagon from 2018 to 2020 as undersecretary, my staff was responsible for overseeing a program where we maintained a warehouse at Bolling Air Force Base here in the Washington area. And we displayed these seize weapons to reporters and others. And there was a large diversity and large volume. This trend, I would say though, applies across the world. China is probably the best example where they've developed a very large arsenal of over a thousand short and medium range missiles that are deployed facing Taiwan, as well as large numbers of intermediate and long range missiles, which are capable of targeting the United States. North Korea has a similarly large arsenal with increasingly sophisticated weapons. Iran has deployed hundreds of ballistic and cruise missiles and used them in some cases in strikes against U.S. forces and our allies. And if you look in the other parts of the Middle East like Israel, missiles and rockets again are the primary method of warfare that groups like Hezbollah are using in their war against Israel.

Mr. John Rood:

We simply need to recognize this is the trend in modern warfare and respond accordingly. If we did a little analysis of our budget or focus of our services, we would not find that placed in that kind of central

role or it would be undervalued. So, the second thing I'd point out that's recommended in the MDAA report is we need to substantially increase the funding for missile defense in the U.S. budget. I will say the current funding requested by the administration and this budget request last month is a bit misleading in that billions of dollars of long range strike systems and other areas are called missile defense, which I think mischaracterizes the amount of funding devoted to missile defense. I like long range strike programs, but they are that, they're long-range strike programs. They're not missile defense per increase.

Mr. John Rood:

We also recommend that the DOD prioritize missile defense as a core mission. For too long, parts of the U.S. Military have neglected this mission. To reverse this, we call on the Secretary of Defense to direct each of the services to treat this area of missile defense as a core mission area and fund it accordingly. Unfortunately, we still see too many arguments that are, as mentioned in the study of the history of this, where people would say, "Well, gee, it's cost imposing on the United States to pursue missile defense." And that's been proven false in terms of an argument by history. If you look at the amount of cost imposition that missile defenses have imposed on Russia as an example, in China, other U.S. adversaries, where they are investing in capabilities like undersea transoceanic torpedoes, other methods to evade, and trying to counter U.S. missile defenses in other ways, we've really had a cost imposing effect on others.

Mr. John Rood:

And the reality is, in every other area of our defense doctrine, the cost of a bullet is quite small. The cost of the defense, where we armor our troops, we place them in armored transport vehicles, we place them away from that danger, cost far more than the cost of the offense. But for some reason, this gets applied in missile defense in ways that stunts our thinking and fails to recognize you've got to have the ability to deal with the adversary use of missiles. You have to have a sufficient volume and sophistication of your defenses, such that your foreign bases can operate such that you can fight through a conflict like we're seeing in Ukraine, and that you can effectively defend against those that are firing at you, but that's got to require a certain volume of defenses to enable offenses to be utilized effectively.

Mr. John Rood:

Third thing I'd point out is that the defense department needs to take steps to much more rapidly develop and field missile defenses. In the roles and responsibilities report, MDA points out that in our history, the periods of the most rapid progress have been when we've had a single organization empowered to make that kind of rapid progress. Like when President Eisenhower created the Advanced Research Projects Agency or ARPA, which was later renamed DARPA. President Reagan created SDIO, or the Strategic Defense Initiative or in the initial instantiation of the Missile Defense Agency, which was created during the George W. Bush administration. And here, some might say, "Well, gee, what's wrong with our current system?" Well, our current system is that the military services and other parts of the defense department on average take 10 to 15 years to field a new capability. That simply won't keep pace with a threat and is not the kind of slow pace of innovation and deployment that we need, especially in a critical mission and we don't have to accept that.

Mr. John Rood:

So, we recommend that MDA, or the Missile Defense Agency, is the lead architect for missile defense and should have its original rapid acquisition authorities restored. So it can quickly develop and field

missile defense systems to deter and defeat ballistic, hypersonic and cruise missiles. As originally envisioned at MDA's founding, we also recommend that once these systems are developed by MDA, they should be transferred to the military services for rapid full rate production and sustainment. MDA needs to be focused on rapid R&D and fielding of new capabilities. The bureaucratic structures that limit and restrict this progress should be removed. For example, we argue for the elimination of the Missile Defense Executive Board, which is a very heavily bureaucratic structure, and having spent hours in that body myself, I really question the utility of it in that it forces MDA to, frankly, behave like the other traditional DOD development organizations, with very similar slow results, which are more costly than they should be.

Mr. John Rood:

The urgency of the threat just won't allow this kind of long duration development to be our primary approach. MDA is the lead system architect for missile defense across all domains. And you need a lead system architect, and they should be fully resourced and authorized to rapidly and efficiently develop defenses for both crews, ballistic, and hypersonic missile threats. The Secretary of Defense, in my view, our view, should return the original rapid acquisition authorities to MDA that existed at its founding in 2002, to allow us to move much more rapidly. And these include being relieved from the obligations imposed by J-ROC and the strict adherence to the DOD 5,000 series acquisition regulations. And then includes the MDA director, having the authorities to function as a component acquisition executive. MDA, in our view, would develop systems through low rate initial production and then transfer the systems to the services for full rate production. And the services would be required to budget for that production and fielding.

Mr. John Rood:

The MDA budget not be transferred to the services for this purpose. The services would need to begin budgeting for that. They've been directed to do so before they've just not followed through on that instruction. And then after MDA transferred a missile defense system that it completed R&D to the service, MDA could shift resources to the next highest capability development. And MDA would be responsible for the ongoing capability upgrades. It's just that the production and sustainment would be the responsibility of the service.

Mr. John Rood:

So some would say, "Well why should we do this when we have something that works today?" Again, it's too expensive and takes far too long. And we saw the difference after MDA's founding in 2002 and the power of these expanded authorities. For those that aren't familiar with that history in less than two years, following a decision to deploy a system, the initial deployment of the first operational ground-based interceptors at Fort Greeley and Vandenberg, California began along with the necessary sensors, along with a sea-based X-band radar, along with a new command and control system operated by the National Guard. In two years.

Mr. John Rood:

And then over the course of the next four years with these rapid acquisition authorities, MDA would field other capabilities like Patriot PAC-3, SM-3 block 1A, interceptors on Aegis ships, the THAAD system, and other additional ground-based interceptors and sensors. That's what rapid acquisition capability looks like. And we need to stop treating MDA like the rest of the defense department programs.

Otherwise we're going to have similar results as the rest of the defense department programs, which are 10 to 15 year development cycles, which cost too much.

Mr. John Rood:

So for the recommendation we need to get the U.S. Military services more engaged on missile defenses. One of the things that we're concerned about is that the Army has underfunded and under resourced this critical area. That's not surprising to me given that the other missions that the Army has had, but I think they've been slow to recognize the threat to their forces. I mean, after all, it's been since World War II, because of the strong U.S. Air Force, since a U.S. soldier was attacked from the air. Although I would say while we use that line, we don't include things like in January where U.S. forces were attacked by a ballistic missile launched from Iranian-backed proxies. Or times when the Iranian forces themselves launched more than a dozen ballistic missiles at U.S. forces.

Mr. John Rood:

So I do think we've got too much duplication today among the military services, which we really can't afford. One of the areas that I differ with the recommendations in the report is that I think we should see the Air Force given this mission. That's what virtually every other effective military around the world is done, where they've given responsibility for air defense to their air force, given the synergies that are available for using a combination of ground and airborne and elevated sensors and interception systems to combine from an effective defense against cruise, ballistic, and air threats.

Mr. John Rood:

That was the plan you'll read in the paper at the founding of the U.S. Air Force in 1947, the president and the Secretary of Defense directed that and made the Air Force responsible for air and missile defense. But as we see throughout our history, this is a very common repeating theme, not just in missile defense. But the military services tend to resist those things and try to have a series of capabilities solely resident within their own service, as opposed to relying on others. And we saw in the history there, the Army playing a much greater role over time and pushing back against the decisions by the Secretary of Defense and others to limit their role and eventually taking the lead role on missile defense for ground-based study. But I think this is not efficient. And this is something for example, Rand studied in 2002 and reach the conclusion that the Air Force should take the lead.

Mr. John Rood:

You saw former Chief of Staff of the Air Force at McPeak arguing for this. I think that's where I would like to see us go. Because today, given the inherent limitations and difficulty and detecting and intercepting low flying cruise missiles using ground-based radars and interceptors, say, operated by the Army as opposed to the advantages of airborne sensing and defense from unmanned and manned aircraft and lofted sensors. Just another reason why the optimization of that I think should be given to the Air Force.

Mr. John Rood:

Couple other recommendations that are important that we put forward. The Space Force being responsible for the overall sensor architecture and the space domain, to include sensors contributing to the missile defense mission. And then National Guard to be the group that mans, trains, and operates U.S. homeland defenses and MD sites for sensors, interceptors and command and control. We would argue, I would argue, that should also include defending Guam and Hawaii as additional capabilities are fielded.

Mr. John Rood:

So that's just a few of the recommendations that we put forward. But again, I want to come back to a kind of fundamental point. The war in Ukraine is a good illustration of how the nature of warfare is shifting. For example, we're seeing there's always a balance between mass mobility, firepower, things of that nature. Fundamental qualities of warfare. But one of the areas we're seeing tilted is the disadvantages, or I should say it better, the reduced advantages by mass of armored forces. Mass concentrations of ground forces, being very vulnerable. When you have the ability to maintain information as situational awareness of where those forces are through airborne assets, like the drones that Ukraine is deploying very effectively to coordinate with fires like long range artillery to destroy those armored formations and the role that precision and the low cost of precision and the ability to strike at range is providing against those concentrations.

Mr. John Rood:

And the same thing is true with aircraft and helicopters, where you are seeing attrition of those forces. But missiles, crews, ballistic, and hypersonic missiles playing a much larger role. Other types of forces like cyber forces being very active. So it doesn't mean we don't need those capabilities, but we have to adjust the balance at which we're applying those and recognize these shifts. So, anyways, that's enough for me. Riki, thank you so much for, for inviting me to speak. And I look forward to the Q and A.

Mr. Riki Ellison:

John I'm at fault with one question from your vast experience. How many of these recommendations, when can they get done realistically? Is it next year? If this gets through Congress and administration, what's your thought process and how soon can we make change?

Mr. John Rood:

Well, I think it depends on if the spirit is willing in places like either the Congress or the administration in the form of the Pentagon, the Secretary of Defense or senior officials, if there's a buy-in and a support, changes can happen very rapidly. It's more common, unfortunately, that folks are used to a current system. They tend to reduce, try to repel or oppose change. And so in those cases, it obviously take much longer. I've been involved in cases where we put in place, using the authorities resident and the defense department changes very quickly. And I've also been involved in situations earlier in my career as a Hill staffer, where the administration didn't support certain recommendations and the Congress imposed it on them anyways.

Mr. John Rood:

You look back over a history, things like Goldwater-Nichols being imposed by Barry Goldwater from the state of Arizona and others on the military and the transformative effect that it had. So I think it can happen quickly. And I will say, in case it comes across that I'm being too critical of the people we admire so much in uniform. I'm not. I mean, when you work and you're amongst them, one of the things that is just amazing is to see the quality and caliber and commitment of those folks. And that sounds very trite and simple, but look at the war in the Ukraine and the difference that makes. There are technologies being applied. But the fundamental difference in the forces is the will to fight, the commitment to the mission, and the commitment to each other.

Mr. John Rood:

And it makes you about teary eyed sometimes when you're around U.S. Military officers leading their forces and the esprit de corps and the willingness to sacrifice do whatever is required for their fellow service member, that look at what's going on in Ukraine. The Ukrainian forces have that temper and fighting will, the Russian forces do not. And so despite all the advantages look at the difference there. And so sometimes I think when people do things and question affecting that military culture, we have, they don't understand the same way that Mark and Ty have, who have spent their career there, just how vital and central that has to be to our effectiveness. And we can't take that for granted.

Mr. Riki Ellison:

Thank you, John. And I greatly appreciate your academic thought, your independence, and courage to say the truth. So I greatly appreciate that. Thank you. We also have another link to Arizona. Mark Montgomery was Senator John McCain's lead aide at the Center Armed Service Committee for a few years. And Mark is an exceptional retiree.

RADM (Ret) Mark Montgomery:

The report, what I want to do is dig into talk a little bit about what we've learned in Ukraine with Russia and dig into two of the areas that I think it really causes us to need to take action. And first thing I want to say is, I want to answer one part of your question, how fast can they do it? The missile defense, the issue of restoring MDAs acquisition, rapid acquisition authorities could be done in a week, honestly.

Mr. Riki Ellison:

Wow.

RADM (Ret) Mark Montgomery:

Now, as John would say, that takes a political will that may take a year or two years or never. But the actual process is a week. Some of the other things we recommend in here take years, maybe a half a decade, but that's one that could be fixed immediately. And probably of all our recommendations would have the most powerful impact. It was a bad process decision probably arrived at through the observation of some poor practices, but instead of fixing the practices, they altered the process. And what we need to do is get a good, effective MDA process in place. And I'll explain why in a moment.

RADM (Ret) Mark Montgomery:

First, I do want to say the lessons learned from Russia... Look, and a lot of us who've... I worked at U.S. European commanders in the J5 as a one star, spent a lot of time in Ukraine. I'm surprised with how well they've done. And I've worked closely with many of the officers involved in this. But in the performance of the Russian army, as a large scale maneuver army, has surprised me in a good way that they haven't been that... But let's be clear. Their cruise missile and ballistic missile attacks have been effective.

RADM (Ret) Mark Montgomery:

They're not 90% effective, like our cruise missiles, maybe they're 70% effective, but 70% times 1,300 is a lot of effectiveness, right? That means a thousand missiles have hit where they intended and they have hurt the Ukrainian army. They've hurt them at ammo depots, they've hurt their air force and airfields. They've hurt both services at their logistics depots. They've hurt infrastructure. They have been effective. Some of their targeting has disappointed us. I tend to think that's more artillery and errant missiles, but their missile attacks have been effective. And that should be a sharp lesson learned for us

because China has more missiles than Russia. When you add up the SRBs, IRBs and cruise missiles facing Taiwan, for example. Or the Southern islands of Japan.

RADM (Ret) Mark Montgomery:

And something else that's demonstrated in this is the first mover advantage. Authoritarians are going to have the first mover advantage. The Biden Administration, to their credit, was announcing Russia's intentions for weeks ahead of time, but because of the authoritarian regime, they still had first mover advantage. Democracies don't initiate these wars of choice easily, authoritarian regimes do. So that first mover's advantage is important. And China will learn a big lesson from that, which is that restraint in using that first mover advantage, hurt Russia. They showed restraint, thinking that there'd be massive defections, and it'd be a quick win, not wanting to do much damage. They showed restraint.

RADM (Ret) Mark Montgomery:

I think what we can learn from this is China, when they use that first mover advantage with ballistic and cruise missiles, will probably go all in. That means a lot for missile defense. It means that we don't just have to have capability, but we have to have capacity. And that's where we hurt. Even sometimes when we develop the most, the sweetest missile defense system, it tends to come at a cost that causes us to have a capacity that's fairly low. And you can think about some of our sea-based systems or things like that in Patriot where our numbers really don't do service to the threat.

RADM (Ret) Mark Montgomery:

So that what I've learned from Russia are those kind of things. So when I apply it, there's two thoughts here. The first is what we haven't seen here and despite press reporting, we really haven't seen hypersonic missiles yet. They're not really at that level of development that you're going to see kind of full scale hypersonic, glide vehicles, things like that in combat for several years. But I do tell you what should be concerning us. And that is that hypersonic missiles are going to be in the field before hypersonic defense. So the number one reason that we need to give MDA, the Missile Defense Agency, back its rapid acquisition authorities, and so that it can aggressively address this hypersonic problem.

RADM (Ret) Mark Montgomery:

I promise you the services will not solve it. They don't intend to solve it. They're going to allow Missile Defense Agency to solve it. If we use the traditional DOD acquisition system, we'll have a high quality hypersonic defense out there within 10 to 15 years. The problem is the adversary is going to have a high quality hypersonic attack capability in three to five years. If you want to square those numbers, you got to give MDA the ability to take risk, to have a rapid acquisition authority process, and to do it now. That is something that needs to be signed this week, this month, this quarter, no later. And you need to give Admiral Hill and his team at the, at the Missile Defense Agency, the resources and the authorities to tackle this head on.

RADM (Ret) Mark Montgomery:

Why this really matters is the idea of deterrence. Deterrence doesn't work against a first mover, i.e., an authoritarian state, who believes he has an ability to take all your systems out. So to the degree to which they build hypersonic attack, and we do not build hypersonic defense, all our other investments lose their deterrent value. As the adversary says, well I can take out that aircraft carrier. I can take out that air field. I can take out that logistic stowage site in Poland or Germany or Belgium or the Netherlands, where we store all our equipment. So we really have to get at this hypersonic defense

threat, we have to give the Missile Defense Agency the resources and the authorities they need to tackle it. So that's the first big... If you... As I said, if any one thing could get done from this paper, with the snap of our fingers, I think all of us would agree. It's get the MDA that rapid acquisition authority.

RADM (Ret) Mark Montgomery:

Now, the second issue I was going to tackle real quick is the Army and cruise missile defense. And obviously I'll take a slightly different tack than John Rood. We ended up with the idea that the Army needs to get this missile done. And I don't want to go through the whole history of the Trail of Tears, of slam ram me ads, even Sergeant York, if you go way back with the Division of Air Defense. We have not done well since we laid up the Hawk and improved Hawk air defense systems that were the backbone of our air against the Soviet Union in the 1970s, eighties and early nineties. And as we got rid of that system, our failure to replace it, because the Army had legitimate other number one priorities, particularly after 2001, it has left us with a real hole in our swing.

RADM (Ret) Mark Montgomery:

We do not have a cost effective, short to medium range air defense system. The Patriot can do cruise missile defense, but it does it at a very high cost, \$3, \$4, \$5 million a round, which is not cost effective with an adversary. It does it at expense of doing some of its SRBM, short range ballistic missile defense mission. And we just don't have the capacity to do whatever we need to do cruise missile defense. So we absolutely, positively have to get a short range, cruise missile defense system out there. The Congress noted this four years ago now, almost five years ago. Told the Army to do it. Recommended the Army, go by a system called NASAMS. The Army was smarter and bought a system called Iron Dome. And then very quickly realized the Iron Dome doesn't do cruise missile defense. So we went through a game there spent quite a bit of funds and ended up with nothing.

RADM (Ret) Mark Montgomery:

But it the Army has a program called Indirect Fire Protection Capability. I would challenge to ask a hundred army general officers what the name of their short range air defense system is in development. And if 50 of them could say Indirect Fire Protection Capability, I'd be a little bit surprised. But that is the heart of their investment that has to happen. And so what John said earlier that the Secretary of Defense has to direct the Army to do this. I'm afraid they have to direct the Army to do it because the Army knowing they had this IFPC issue, that's the acronym, for the last five years of going nowhere. In the meantime, identified a new mission called mobile SHORAD defending air defense of their maneuver battalions and developed, funded, and is beginning to acquire 100 mobile SHORAD units. In other words, when the Army wants to be good at missile defense, they can be good at missile defense. The Secretary of Defense just has to make them want to be good at this short and medium range cruise missile defense, that's critical.

RADM (Ret) Mark Montgomery:

And I'll give you one good example. What we saw from the Russians was their ability during this attack to hit warehouses and stowage units that held Ukrainian military goods. Well, we did a fantastic job during the Obama, Trump, and Biden administrations spending nearly \$26 billion in the European deterrence initiative to place in the end about \$14 billion worth of tracked and wheeled vehicles all over Europe. And what are basically undefended storage units. Because we don't have the missile defense systems surrounding them to keep them protected in the early stages of a conflict.

RADM (Ret) Mark Montgomery:

So the idea is our forces would fly over and within 72 hours fall on all this equipment. But that doesn't work if in the first seven hours, the adversaries slamming all these warehouses with cruise missiles. So we obviously need to get cruise missiles into the field rapidly to protect the Army's significant investment in the stowed gear in Europe. Why we have to explain this to the Army is beyond me. It is just jaw dropping that this hasn't been part of their planning from the very beginning, but it clearly hasn't because they have put IFPC to the side, while they develop M-SHORAD. So all the MHO ad vehicles stored in Europe will be taken out by the cruise missiles for which they did not build their IFPC system.

RADM (Ret) Mark Montgomery:

All right. Enough complaining about the Army. What I'll say is the Army absolutely has to invest in it. The kind of money that they have set aside in the system is low. They've set a contract with Dynetics to deliver a system. The first ones are supposed to come in fiscal year '23. I'll kind of believe it when I see it, because we've been hearing about IFPC coming in two years for about the last eight years. But we absolutely have to stay on top of the Army to deliver this system.

RADM (Ret) Mark Montgomery:

So if I go back, and just summarize it. Two big issues have to be tackled by us. One, we have to invest in our hypersonic defense so that we don't get too far behind the rabbit in terms of Russian and Chinese development of hypersonic attack. And two, we absolutely have to lean into the Army to develop and procure in significant numbers, cruise missile offense. And yes, this is rocket science, but cruise missile defense is doable. The type of systems we're advocating for are operated by Lithuania, Portugal, Norway, Denmark. I'm pretty... Excuse me, the Dutch. I'm pretty sure you could add the U.S. Army to the list of armies that can operate this gear if we procure it from them. So we absolutely have to get at this short and medium range cruise missile and defense built in a reasonably cost effective way to allow us to defend our critical ground-based assets in Asia and Europe during a conflict with China, Russia. Riki, I'll pass it back over to you.

Mr. Riki Ellison:

Thanks Mark. I just want you to elaborate a little bit on how... Obviously the first point you said we can get done very quickly. How about the second point? How much more time and effort are you going to... On your viewpoint, that the Army has to get this right or you move it to the Air Force.

RADM (Ret) Mark Montgomery:

Well, I'm glad you allowed me to jump right back in on the Army issue again, because I don't get enough of it. But seriously, this is fixable. Look, the Army determined they had this M-SHORAD issue, this defense of the maneuver brigades and basically took charge and moved out and they got it done rapidly. If they make it a priority, they can do it. And again, while this is rocket science, it's rocket science that has been figured out by companies in the United States, Norway, and Israel. And it's being operated by armies from Portugal to Lithuania. I'm confident the U.S. Army can both design, develop, procure and field the system rapidly. And by rapidly, I mean they could meet their fiscal year '23 deadline. They won't meet it if they apply their normal level of prioritization to this. And if you read every document coming out from the Army right now, IFPC is not listed as a priority. If I'm talking to every COCOM commander, it is a priority. So I mean, there's a total mismatch between what the war fighters need and what the Army's producing and that's not acceptable.

Mr. Riki Ellison:

But Mark, even if this goes forward and they get the IFPC, which we're confident they will, how are they going to defend all the bases? All the Air Force bases. That capacity number is tremendous. It's a huge shift of army spending to do something like that.

RADM (Ret) Mark Montgomery:

Yeah. I'd have to take a look again. I think the Cold War numbers were 26 to 30 battalion. There's a lot of them. Now look, I'm not advocating for those kind of numbers, but they are going to have to put Army TOA into this mission. I think one of the pieces of trepidation on not stepping out on development and initial procurement is they kind of know what the final cost is going to be in terms of, and not just the TOA for procurement, but what it takes to life cycle maintenance, in terms of personnel, constant maintenance crew. Missile defense is not a cheap mission. It takes really smart soldiers and it takes a decent number of them to operate. Not just... We have a good radar, the 48, especially version four. I mean, we are good at this when we want to be. The Army just needs to be told to prioritize being good at it.

Mr. Riki Ellison:

Thank you, Mark. And we're going to go right into tide and handle that the Air Force perspective. But I do... The one thing that we didn't discuss in much detail is the Space Force's future role, in roles and responsibilities. We talked about the sensor integration. What about the effectors? What about how that evolves and do you set that? Have we set that in this paper to get that moving to where it needs to go?

RADM (Ret) Mark Montgomery:

Is that for Ty to kick it off as a retired Air Force officer, or for me?

Mr. Riki Ellison:

You know what? I'm going to let Ty-

RADM (Ret) Mark Montgomery:

I want to let Ty answer. I mean, we all know the Space Force is just an extension of the Air Force. I mean-

Mr. Riki Ellison:

You've given Ty a lot of big hits here right now. So he's got a big plate to fill for us. So ladies and gentlemen we'll introduce Ty former deputy PACOM, PACAF commander and also over Europe. He's been great. All right. Your view, Ty. It's on you.

Lt Gen (Ret) Jon Thomas:

Okay. Thanks Riki. And like John and Mark, both congratulations to you personally and MDAA writ large for getting this out. The other two on the screen here and you I'm a latecomer too, in the sense of, I only started on this effort in October. I'm glad to have been part of it, but much of the heavy lifting was done by others. I guess, can I get to the Space Force as I'm working my way through a couple things?

Mr. Riki Ellison:

Absolutely.

Lt Gen (Ret) Jon Thomas:

Because Mark and John really, I want to pivot off a couple things that they mentioned and then go into some of the stuff that I have prepared because they really hit on some key points. I mean, John's identification of what the world is like now as it is and going to be not as we wish it to be, critical. I'm going to hit on long-range strike for a second as a part of missile defense because I think that's really important. So in theory, yes. Long-range strike could be part of missile defense. If you can get their effectors, their offensive weapons left of launch, you're winning, you're winning every single time. Okay. And you can do that kinetic or non-kinetically.

Lt Gen (Ret) Jon Thomas:

Let's remember though, particularly in the long list of opponents who have high volume precision ballistic and cruise missile fires, they're probably going to be launching them from where? Their homeland. Okay. So now going back to the perspective that I approach this with is from those two particular jobs you mentioned. Joint employment, especially in a role as an area defense commander and a combined force air component commander. Yeah, you're going to want to hit those things and you may even have the capabilities, but you're not likely to have the authorities, particularly at the beginning of the fight.

Lt Gen (Ret) Jon Thomas:

So I want to deconstruct a little bit and John didn't assert it, but anybody out there who was saying, "Oh yeah, if you just take care of long range strike, you'll get everything left of launch and life is good. You don't need active missile defenses." I don't agree with that. And I don't think the evidence suggests that we're going to be able to use those early on in a conflict, because we won't have the authorities. Mark's point about capability, which we have some pretty good capabilities, but we don't have the capacity is so, so important. And I think that's part of the nearer term solutions that MDAA is talking about in the R and R about pressure on the Army because those are available in there. They're just not putting them out. That capacity is a critical point. And then Mark hit well on MDA, the relationship on hypersonic defenses and then IFPC in the near term.

Lt Gen (Ret) Jon Thomas:

So let me pivot to kind of heads on the service element to this. And what I'll start off with is the jobs that I've had, there is one part of the Army that I would love to be in the Air Force because those soldiers are so close to the idea of what we need to do as the area defense commander. And that's the missile defenders in the Army. They are awesome. And they also fit incredibly well into the joint force. And because they understand that missile defense in total is a joint endeavor and it's never not going to be because we're going to have capabilities resident in each one of the services and they all have to work together for the area or defense commander who's working on behalf of the combatant commander. It just has to work that way.

Lt Gen (Ret) Jon Thomas:

So the problem is that the missile defenders are this one small segment of the Army and big Army is not supporting. So if you're out there and you're from big Army, I'm sorry, I'm going to tell you that this should be a punch or a shove in the chest to you about what big Army hasn't been doing on missile defense. Okay? Other priorities have been... Long range strike is one of them. Let's ask ourselves, should

we resourcing more missile defense or a long-range hypersonic weapon. Or to Mark's point about resourcing M-SHORAD but not resourcing IFPC and thus the M-SHORAD capabilities are actually at risk because they're never going to get out of the barn.

Lt Gen (Ret) Jon Thomas:

This is something that the report clearly says the Army has played central role. The Army may not play a central role in the future. If it doesn't treat it with the gravity and the serious that it deserves, this mission, missile defense. And so we had a lot of discussions and the report comes short, just short of recommending a transfer of the mission. As we talk talked about it, there's a lot of second and third order effects to that first order effect of transferring the mission. And that's why I've come to the conclusion that not yet. Give the Army one more chance with a really hard jab in the chest to say, this is really important, do it. And if they don't, then the Secretary of Defense needs to intervene and we probably need to study about transferring the mission. Intermediate steps.

Lt Gen (Ret) Jon Thomas:

So we have a recommendation in there that the Air Force should have the authority to be able to procure, not develop. That's important that verb's not in there. Procure and field and sustain missile defense forces for their expeditionary maneuver units. All words chosen carefully. So we're not talking about Air Force picking up the authority to defend Hickam Air Force Base or Ramstein Air Base. What we are talking about is the Air Force picking up authorities to be able to protect maneuver forces, Air Force organic maneuver forces that are otherwise not going to be covered by the Army or Navy.

Lt Gen (Ret) Jon Thomas:

So let's use the example in the Pacific and agile combat employment. This is really important because especially the terrain of the theater is different than Europe. You have a lot of island locations, you have a massive geographic space. Your maritime forces are going to be... Which are very capable missile defense, but they're either going to be defending themselves and they're going to be elsewhere. You're going to have some Army forces that are going to be doing theater air defense, okay. And they may be doing some point defense, but they're probably not at the small island location where you've got a small number of fighters and a couple hundred airmen, and they're fighting their way through the missile attacks that they're getting from the PRC to generate the defensive counter air lanes and the offensive strike that we may get out of our fighters.

Lt Gen (Ret) Jon Thomas:

So you've got to be able to do something to protect them. And in the absence of the capacity that the Army needs to be able to produce, the Air Force is motivated to do. Whether they produce the resource or not open question and the challenges over to the Air Force, but you can't have that. The Air Force can't make those choices unless they have the authority to do it. So I that's the reason why I think it's really kind powerful that this report does recommend that the Air Force have the authority to procure and sustain missile defenses for their expeditionary maneuver forces.

Lt Gen (Ret) Jon Thomas:

Let's go over the Space Force. Okay. I think a really big, important point you bring out, Riki, is Space Force as a service responsibility for the sensor architecture and the space domain. Makes perfect sense. Okay. Space force though, can't be going off on its own and focusing purely on the missions that are important to the Space Force, which there are a lot of them. But they also have to focus on the fact that

the sensor architecture that they're responsible for, is a key contributor to the success of missile defense. And so the report clearly states that Space Force, with that new responsibility, needs to coordinate with those users to include specifically MDA.

Lt Gen (Ret) Jon Thomas:

Here's the good news recent article, I think was about 10 days ago, talks about the Space Force doing that exactly. Which is apparently they're establishing a memorandum agreement with MDA on the development of the space architecture, sensor architecture so that those kind of equities from MDA do come in. So whether we intended it or not, that's happening already, and that's a good thing. Space command, different thing. Combatant command, but what the report recommends, and John may have touched on that briefly, is basically take over, take on the roles and responsibilities that U.S. STRATCOM had. And that seems to make sense, because with the divisional labor between those two commands space command is more appropriate and one of its components obviously is the Space Force. And we just talk through the sensors.

Lt Gen (Ret) Jon Thomas:

Want to talk a little bit and non-kinetics and make sure that we know that the report calls out that distinctly and calls for MDA as part of their solutions that they develop for missile defense architecture, that they focus and leverage the work that the service has done on directed energy, particularly lasers and high power microwaves. Which the magazines that come with that type of technology, we all know, are theoretically unlimited only by the power that you can put into the system. And so for the cases where we can address the threat that way, that may be the optimal solution and the lowest cost, to defeat some of the cost curve questions. So I think that's really important that the report calls that out.

Lt Gen (Ret) Jon Thomas:

And then I think the last one that I'll probably hammer on is that the important add of land attack, cruise missile defense to MDAs portfolio. I mean, that's new and that's different. I think part of why MDAA is recommending that is because the proliferation, but also the precision, of the land attack cruise missiles, and the fact that some of the same sensors and some of the same capabilities for ballistic missile defense are also appropriate for cruise missile defense. And so if MDA's doing one, why not have them do both?

Lt Gen (Ret) Jon Thomas:

Now an important distinction and again, words chosen carefully. We did not say anti-ship cruise missiles. So just for the audience to make clear, and that's because a discreet enough target in a discrete environment that the U.S. Navy has handled that mission well, and will continue to do that because that's them defending maneuver forces. And so the report doesn't call for MDA to pick up that particular mission but land attack cruise missiles, definitely the report calls out for that. So I think I'm going to pause there. Riki, we're getting pretty close to the hour and I know we need to get to questions, but I'll turn it back over to you.

Mr. Riki Ellison:

One quick thing, Ty, on the space and cost effectiveness. So space would have to defend its assets and you call it missile defense or space defense, that's in space. And the effectors... Just touch that real quick. Does that out of the organic built by Space Force or is it with MDA or is it allowable through policy

now to start looking at effectors that have got to be done to protect all those satellites up there? We have to do that anyways. I'm just throwing that in there to make sure we touch that.

Lt Gen (Ret) Jon Thomas:

Well. I mean, if the question is how are we going... How does this report address the idea of breaking a opponents kill chain to try to produce a kinetic or non-kinetic effect against our own satellites, various missions for them, I think at a bare minimum, the kinetic approach to it, just a direct ascent ASAT, your ability to affect that is similar to a ballistic missile in the sense that it's the same type of platform that's coming up at you. So our missile defenses would, I think, be part of that. I would start to limit it there though, because if you have auto orbit effects and you can walk through all the various elements of how you kinetically or non-kinetic effects. Some of those things are outside MDA's swing, so to speak. Outside the strike zone. And others can and will be doing that. And so that's... I think you make the division of labor on where the similarities are and where they end and go from there. Over.

Mr. Riki Ellison:

Thank you. All right, Mark-

RADM (Ret) Mark Montgomery:

At the questions. Yeah. From the group. I know we don't have much time. I pick out the best one. I think it's for John. Good question here. What did you all say about directed energy and the role in that and looking at future roles and responsibilities for missile defense?

Mr. John Rood:

Directed energy is an area that's critical. And as Ty mentioned, not only speed of light weapons, but microwave, high-power microwave, weapons. Where our view was that the defense department has under resourced those things. If you looked at kind of a word count, you would see a very high volume of words devoted to this. And then if you looked at a dollar count, you would not find that in the defense department's budget, in terms of prioritization and resourcing. And having participated in some of those discussions, you'll hear the counter arguments to funding those well. The level of maturity of the technology is not high enough yet to field it. Therefore we shouldn't fund it at a large amount. But to me, that's a self-fulfilling prophecy. Anyone involved in technology development efforts knows you have to fund them. You have to work, you have to overcome the barriers to bring them out. And, frankly, laser's the only technology that I can think of at the moment in my lifetime that have come slower than everyone expected.

Mr. John Rood:

So what we recommend is directed energy weapons, high power microwave, A, be given a higher priority. B, be part of the mission set for the Missile Defense Agency is the lead architect, to architect those things. And the same way that kinetic systems are done, that they be developed by MDA, but employed, that is operated sustained and the full rate production being handled, by the services. In the same way the other types of systems for missile defense that we have are done. But I will say I'm disappointed that both when I served and otherwise, we just haven't put enough priority in these areas in terms of dollars.

RADM (Ret) Mark Montgomery:

Yeah. I would say that we did, all of us who edited this document and worked on the document, felt that directed energy had high potential, but currently low return. And so that we need to keep focusing on it and the services do need to keep working the programs they have in process. There's been a little bit of success in some of the services, and they should continue to exploit that. Hey, there's time for one more question, Riki, it's a good one. It's a fair one. Probably any of us could take it. We'll start with John though.

RADM (Ret) Mark Montgomery:

It's, hey, cruise missiles and ballistic missiles have been used heavily by Russia against Ukraine and President Zelenskyy, but they haven't deterred him. Wouldn't it? And there's a decent argument that if he'd offensive weapons, Russia might not have attacked. Doesn't this argue that you don't need to make the... That the investments ought to be on the offensive side of the ledger or not the defensive side. Riki. John, you first.

Mr. John Rood:

I would argue, look, contemporary deterrents requires both offenses and defenses, and I think it'd be a false perception to think you can do this with one or the other. You're going to need both. But as Ty did a great job mentioning, it sounds very good academically to say, well, if I know someone's going to shoot missiles at me, why don't I just attack the missiles with a long-range missile. Or the fact that I could strike with long-range capabilities will prevent the adversary from launching in the first place. And what I'd say is that just hasn't been proven true in history. If you look at our recent experience where we knew the Iranians were going to launch either missiles or attack us in some way with their forces after the strike on General Soleimani, having served in the Pentagon at that time, we were trying to deescalate that conflict. And therefore, treating the offense with force by using long-range strike was not an option.

Mr. John Rood:

You can say the same thing in a potential conflict with North Korea. Or take the situation where the Biden Administration was correctly warning Ukraine would be invaded by Russia. The Ukrainians could have struck North, but they didn't want to start a war. And so they chose not to. And you could go on and on down the line. And I think as Mark pointed out, this is going to be a very predictable occurrence. So you're going to need defenses. Do you need 100% of the ability to negate 100% of the attack, if you will, only with defenses? Well, of course not. And we don't do that in any other military area. And we shouldn't do that in missile defense. But offenses alone will not be sufficient to deter attack. And you would not want to give someone like Kim Jong-il the ability to say, well, look, if he launches a nuclear weapon at Washington and incinerates the city, we'll simply respond with offenses. You don't want to be in that situation. That's why we need robust missile defenses.

Mr. Riki Ellison:

Got it. Okay. I think that's great. Let's just close out with a statement and we'll finish this session. So Ty, could you sum up?

Lt Gen (Ret) Jon Thomas:

Yeah. Riki, thank you. All I would say to wrap up is for those in the audience that are out there that have the opportunity to act on the recommendations that are in the MDAA Roles and Responsibilities Report, please engage us. If you don't understand what's in the report, let's talk about it and then please act on

it. Because as John put it at the very beginning, time is of the essence, the nature of war has... Or the character of war has changed, and we don't have the sufficient capabilities and especially the capacity. And if we don't do something, we're going to be on the wrong foot in the Pacific, in Europe, as we've seen in the Middle East, and we can do better than that. And we owe it to ourselves to do better. So thanks. I look forward to it. Over.

Mr. Riki Ellison:

John?

Mr. John Rood:

Well, I'll be brief and just say again, it's a call to action that we put forward. We really just need to take seriously this moment in time. We're fortunate that U.S. forces and the United States allies are not under the type of withering attack we're seeing in Ukraine. But we are seeing that elsewhere in the world. And so we just can't take our eye off of that. We need to take it seriously. And some of these changes we're recommending would be hard, but if it was easy it would've been done already. And so I would argue now is the time for leadership. And thanks for convening us. And congratulations again, Riki, on getting this important report out.

Mr. Riki Ellison:

Thank you, John. Mark?

RADM (Ret) Mark Montgomery:

Two statements. One, give the Missile Defense Agency its... Restore its rapid acquisition authorities that it had for its first 15 years... Or 17 years. And second fully resource short ground based cruise missile of defense of our fixed sites around Europe and the Pacific so that we're ready for China and Russia. Over to you, Riki.

Mr. Riki Ellison:

Thank you, Mark. Gentlemen, thank you. And all that's not here for contributing to this report. It's a remarkable report and we are 100% going to drive this. We are 100% going to put this in play to make this happen or to force the debate. That has to happen. Our country, people at stake around the world has to have this change. We're the leader. We're the leader of the civilized world. Sustain world order to sustain deterrence, this has to be fixed. We're going to drive it with everything we got and everybody we know, we're going to bring it to make it what our mission is, making this world and our nation's safer with the deployment and development of missile offenses. We have to do this and we're leading it with this paper. So thank you for contributing. And it's a great team. One team, baby. One team, one fight. Let's go get it. So thank you.

RADM (Ret) Mark Montgomery:

Thanks, Riki.