

Mr. Riki Ellison:

Good evening, ladies and gentlemen. Good evening from one of our historical cities of the world, Jerusalem, the capital of Israel. And what better way to look at defenses than this historic fortress that's been around for thousands of years, to look and understand how important the defense of your population is. I'm Riki Ellison, I'm founder and chairman of the Missile Defense Advocacy Alliance, founded in 2002. And we believe, and we're seeing it in the world today, that missile defense stabilizes, missile defense defends, and missile defense protects lives. And the lack of missile defense is the opposite. We have a discussion today, and I think, we are in one of the greatest countries in the world with a layered missile defense system that is deployed and operational, that not only deters, but saves lives on a daily basis. It's a system that was put in place rapidly and put in place very smartly, that is very, very effective. Israel has partnered with the United States in developing the majority of its systems, the Arrow, the Arrow 3, David's Sling, and the new, upcoming Arrow 4. The United States is also co-producing those weapons systems along with David's Sling. The United States gives, in this partnership of development, is supporting with about 500 million a year. The next 10 years is the contract that we have with Israel to co-develop and co-produce these capabilities. We had a chance, or I had a chance today, to visit the Iron Dome site south of Tel Aviv. That was absolutely spectacular to see, a young female commander, that was part of one of the most prolific missile fights or rocket fights that Israel's ever had. And that was last May 2021, for 10 days, where they sustained 700 missiles in one day, and over 4,000 missiles and rockets sent into their population. A remarkable feat with their four batteries of the Iron Dome, to have no civilian deaths from that attack, and 1600 intercepts with a 90% effective rate. That is spectacular to understand, to see how that system went and operated, and it still is operating today. So there is a lot for the world to learn from Israel, a lot to see how they did it, what they did. Each of countries, especially NATO, need to look at this as an example of how to do it right. So today, from Israel, we have some great speakers that are with me from Israel, and some of our board members here. So our first speaker is Tal Inbar. He's an MDA fellow. I think he is the best expert in the world today on the missile threat, specifically from Iran and North Korea, but specifically, from Iran. He's been involved with us for 30 years. He's top-notch. So I'm going to give the floor to you, Tal. It was great to see you yesterday. Thank you for sharing your knowledge with us today. Tal?

Mr. Tal Inbar:

Well, thank you very much, Riki, for the opportunity. And without slides, just to give several notes about the new threats Iran is posing. And I might begin at the end, because just two days ago, the IDF spokesperson released information and some videos of a successful interception of several Iranian-made and operated drones, the two drones that were hit and shut down by the F-35 of the Israeli Air Force. And by the way, those are the first operational kills for this type of aircraft in the world. So it was a year ago, and it was unannounced at the time, but it was released just this week. And another incident with a drone that was known to the public, but then again, a new information came out this week, is from 2018, and this was operated from the north by Iranian troops on the ground.

Mr. Tal Inbar:

And in this case, and this is new information that was revealed, the command car and management of the attack was hit by Israel. So it is not missile defense, but I think it is not wise to distinct between rockets, missiles, and drones, because the threat is combined of all those types, even though the speed and the operational height, and so on. And the difficulty to intercept is different.

Mr. Tal Inbar:

So in Iran, I think the most important issue is precision. They are now giving precise attack capabilities, even to small caliber rockets, which was a statistical weapon until recent time. But now, they are producing and exporting accuracy kits for other proxies in the region. It could be in Lebanon, it could be in Iraq, and in our southern border with Gaza strip. So precision, you can see it all the way from the drones through rockets that now are almost missiles, and of course, ballistic missiles with greater and greater accuracy, and also more locality, if you are speaking about the warheads.

Mr. Tal Inbar:

Another issue from Iran is the increasing speed of the reentry vehicles that we can see, and they are describing at least some of their rockets and missiles in their arsenals as hypersonic rockets ... no, sorry, not rockets, hypersonic missiles, with a huge speed when they are entering the earth's atmosphere. So this is another challenge for any missile defense in the world. Even though it's not a pure hypersonic weapon like we can see in China, operational in Russia, perhaps operational in what the United States is now planning to do. But it is important to understand that in Iranian view, speed, large quantity of missiles attacks from various directions, and accuracy, is the solution for any missile defense system. And they are learning from their experience in the past.

Mr. Tal Inbar:

And we can learn, too, from what's happening in area that is not protected by a reliable and viable missile defense system. And we saw, for example, the 2019 attack on the Saudi Arabia Aramco facilities, [inaudible 00:14:11], and other facilities. And we can see what is happening when an airbase, an air force base, in this case, in Iraq, is targeted with ballistic missiles from Iran, with no aerial defense whatsoever. So I'm speaking about, of course, the attack on the [inaudible 00:14:31] base in Iraq, where some US troops were hit. The United States had a warning before the attack, but the base was basically without any credible defense. This was changed recently, and we saw several anti-drone systems that were operated successfully. So in Iran, we are talking about huge quantity of missiles from all types, ballistic missiles, cruise missiles, accurate rockets, and you can see even some penetration capabilities of missiles that can penetrate not so thick at the moment, but they could penetrate concrete.

Mr. Tal Inbar:

And Iran showed us some videos from experiments that were conducted another new threat. I'm not aware of any operational use yet, but then again, it was revealed less than two years ago is airborne and able launch ballistic missile, which is something new. And of course they could skip part of the ballistic missile trajectory by just flying it with the aircraft and launch it, let's say over Iraq. So this is another issue that we must be prepared for. And some of the accuracy is gained by using an infrared and very sophisticated sensors at a tip of the missile. So this is, again, something new that we have to understand that those types of new missiles can see the target. So it's not just INS and GNSS guidance systems, it could actually see the target, and without credible defense, it will probably hit its target.

Mr. Tal Inbar:

So we can see it across the board, a new type of UAVs are emerging all the time, and there is a tendency of something like that to appear in Iranian proxies all over the region. So just to sum it up a little bit, we can see a huge spectrum of threats, and the missile defense systems should be able to cope with a lot of variable threats, emerging threats, in the horizon, more advanced UAVs, perhaps some low RCS vehicles in the future. And the quantity is a major issue because you have to prepare in advance to produce all the interceptors, and you have to understand that this is an issue. And in Ukraine, and Riki, we spoke

yesterday, and probably, we will have another dedicated event to the situation in Ukraine. But in Ukraine, we can see a lot of ballistic missiles that are fired by Russia. Most of them are cluster and [inaudible 00:17:55] inside, but we cannot see a lot of interceptions by the Ukrainians, even though they claim-

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Mr. Tal Inbar:

But the Ukrainians, even though they claimed to shut down several missiles and several cruise missiles. So, the effect on the country with no protection or almost no missile defense protection is dramatic. As an Israeli, I'm used to be targeted for many years, but we got used to it, but we got defense and we intercept the huge majority of the incoming threats that are endangering populated areas and other areas.

Mr. Tal Inbar:

The knowledge of how to operate those types of both attack missiles and missile defense are learned by all sides. If you run, for example, seeing the huge rate of success of Israeli interceptors, they are learning for this, and Ukraine knows that, in the future, it has to develop or acquire, most probably, a missile defense system. Just some notes for the beginning of the discussion.

Mr. Riki Ellison:

Tal, thank you. I do want to ask, because my understanding, if you draw all the way back to Scuds, those are Russian created. So, there must have been relationships between Iran and Russia in the early days. I would assume you'd let us know if that relationship on technology transfer is still going on between the two nations. What are some of the same tactics, you think, that Iran would mirror, watching the Russians take on Ukraine to mirror that type of attack to you guys? Go ahead on that relationship.

Mr. Tal Inbar:

Yeah, well, I think Iran made a long way beyond the original Soviet technology and North Korean technology. Iran is now focusing much more on the solid propelled missiles and not just the liquid propelled. They still have them, but it's much more sophisticated than the original Scuds that they got from Libya and from other sources in North Korea in the late 1980s.

Mr. Tal Inbar:

As for the operational doctrine. Well, in Ukraine, we just see a lot of missiles, perhaps it's [inaudible 00:20:34] but a lot of SS-21 missile are just fired in overpopulated areas with a lot of submunitions. Several of them were probably used to hit aerial defense in the first phase of the offensive two weeks ago, but it's still unknown, the quantity.

Mr. Tal Inbar:

But, we can see a lot of remains of those types of missiles in Ukraine. I can tell for sure, it is cluster and submunition and not unitary warhead and not penetration warhead. So, Iran is probably learning of course, but it is a threat to urban areas, of course.

Mr. Riki Ellison:

Thank you, Tal. Our next speaker, a great friend of ours and missile defense, Shachar Shohat, and retired Brigadier General of the Israeli, former commander of the Israeli Air Force. I met Shachar, probably, I don't know, maybe 10 years ago, when he was the Air Force Commander, less than that. At the Aero Battery.

Mr. Riki Ellison:

He has been great in growing up with the movement that Israel came into play with a complete layered system, right? I don't think there's anybody better that's out of the force that can talk to what Israel exactly has. What the systems are, how he did it quickly to be able to give that confidence and reliability to his nation, to protect his nation. Ladies and gentlemen, Shachar.

Brig Gen (Ret) Shachar Shohat:

Thank you, Riki. Shalom and good afternoon from Kfar Yona, Israel, a small city nearby Netanya, not far away from the Mediterranean. Thanks for having me and letting me the opportunity to share with you my thoughts. I was very impressed by Tal review, talking about the threats, about the ranges, about the accuracy, about the speed, about the variety.

Brig Gen (Ret) Shachar Shohat:

In order to mitigate this type of challenge, there is no simple and cheap answer. So, you need to have few pillars in order to be able to deal with that. The first pillar is you have to project your power. You have to have deterrents. You have to have the early warning system, a very accurate early warning system. Not relying only on your assets, but here in Israel, we are relying also on the American assets and the working together to extend the time of alert that we can give the civilian population going into shelters.

Brig Gen (Ret) Shachar Shohat:

Passive defense is also an essential pillar for that. Of course, we have to need also a attack capability, no shame for that. Of course, last but not least, and this, our conversation is about, is the air defense, the active defense. Which is, one, an essential pillar of the answer. Having said mix and match, in order to confront the variety and the quantity of the threats. I mentioned, mix and match, Israel develop what we call a multi-layer defense from the very close, very short ranges that can counter drones and small UAVs.

Brig Gen (Ret) Shachar Shohat:

Then, we are climb up, high and far away, in ranges to a short range of defense, such as the Iron Dome, such as the SPYDER made by Rafael, moving to the Patriot system and the David's Sling is the medium ranges. [inaudible 00:25:12] by Arrow, all these are we call the onion rings of defense, are augmented by a strong alliance with the United States.

Brig Gen (Ret) Shachar Shohat:

Training together, sharing doctrine together, augmented with the Aegis BMD capability, augmented with the THAAD capability and augmented also with a Patriot deployed, if necessary, into Israel. As we saw in 1991, the first Gulf War and in some other conflict over the tense time that we had from now.

Brig Gen (Ret) Shachar Shohat:

Mentioned that this is not a cheap solution, of course. This is a good time and place to appreciate the generosity of the United States, helping us dealing with the distress. Of course, we are co-production the Air Defense system with the United States, more than 50% of the Iron Dome and the David's Sling, the production are in more than 20 states along the state of the United States. 50% of the budget stay in the United States.

Brig Gen (Ret) Shachar Shohat:

So, a lot of people got rewarded from the generosity of the United States. Having said that, I would like to mention that the threat, especially posing from Iran, but derives from a few of its boxes, like Hamas in the South, the Hezbollah in the North. The Syrian regime, the Houthis in Yemen. It's not a personal challenge or a problem for the State of Israel. It is endangered the stability of the entire region.

Brig Gen (Ret) Shachar Shohat:

Five years ago, on March 17, I published in The MirYam Institute, an article under the name of Iran, master of misdirection. I claim, in that article, what I just said now. That the threads and will spread all over the Mediterranean. Today we see the battle between the Houthis and Saudi Arabia, the battle between the Houthis and the Emirates, Abu Dhabi, Dubai.

Brig Gen (Ret) Shachar Shohat:

I think, in the last few years, we saw a lot of bells ring all over the world, from the Pakistani and Indian conflict, from the conflict that we have between Azerbaijan and Armenia. The conflict now between Iran and Russia. That's a good time to remind us that we need to cooperate, to train together, to work together.

Brig Gen (Ret) Shachar Shohat:

I believe maybe it's a good time to create what I called CMEA. C for Central, ME for Middle East, A for Alliance. A few countries here in the Middle East, countries like Israel, like Saudi Arabia, like the Emirates, should start thinking seriously to cooperate in alliance, in order to maintain and combine the difference. They face the challenge of the Iranians in the region. That conclude my.

Mr. Riki Ellison:

Thank you, Shachar [crosstalk 00:29:32] So, just think about it. They shot 1600 missiles in Iron Dome, right, in 10 days? That production, half those missiles are being produced in America. That's where that's coming and it has to come and obviously, I was there. They got to have more capacity to deal with that.

Mr. Riki Ellison:

When you look at this, and one of the remarkable things I think that you've done, is the Command and Control. To be able to have the multiple, multiple layers connected and be able to be efficient, and that's going to help your cost group, without firing expensive missiles on drones to do that. That seems to be better than anywhere, where you're able to distinguish how you do it. If you could to talk that, just real quick.

Mr. Riki Ellison:

Then, if you were to offer advice to another nation that just stay in that missile defense, what goes in first to make that an effective layer? Is it the C2 or is it a specific system? Because a lot of people think

you just put one system in and it's a cure-all, end-all and it's not. If you can't connect all your sensors with all your shooters and have the intel to be able to do it, you're not very effective on what you do. But, I wanted to pass it up to you as the expert on this in Israel.

Brig Gen (Ret) Shachar Shohat:

Mentioning the threat and mix and match, in order to have the right redundancy that you need, you cannot put all the coins in one basket. You need a variety of defense system. Of course, they have to be a very good system, but they have to communicate it to walk into [inaudible 00:31:14] with each other, in view of the levels to share the common picture, to make sure that you are engaging the right targets. You are avoiding from a friendly fire. You are not wasting ammunition from a federal system on the same target.

Brig Gen (Ret) Shachar Shohat:

So you have to be efficient, to make this thing affordable as possible. The connectivity and the interoperability between the system is a essential demand from Advanced Air Defense System. It's not only between the system, it's also between the warriors. You have to practice, you have to share the knowledge, you have to combine the doctrine.

Brig Gen (Ret) Shachar Shohat:

Maybe they could elaborate a little bit after me on the combined exercise that we were conducting along the years, and and the sharing. I think this is for the mutual benefit of both the nation. So, I can see it as a little bit giving back, at least the sharing the experience, the knowledge and the understanding of the complexity of Air Defense is a part of the relationship between the U.S. And I.S.

Mr. Riki Ellison:

Shachar, it seems pretty easy, not easy, but a lot more easier if it's two countries doing this together, right? When you start looking at NATO or you start looking with the Middle East with multiple countries, it becomes a lot bigger issue and it's hard to do.

Mr. Riki Ellison:

I think that's one of the struggles NATO's having right now, one of the struggles the Middle East is having right now. Is there any quick answer to that, or is that just trust, relationship build over a period of time? What's the answer to bring in multiple players in there?

Brig Gen (Ret) Shachar Shohat:

I think it's trust, I think it's hard work. I think it takes a lot of time to train and to gain this capability. It's better to start it yesterday than to still wait. We can see now, in Ukraine, how difficult is to one country to walk alone in this crucial life.

Brig Gen (Ret) Shachar Shohat:

There must be alliances, they must work together, they must have some combined protocol. They have to have a communication, Link 16 or other combined protocol that they can work together and train together. Of course, a little bit, it's up to the politician level, the level of cooperate, but the troops should be ready.

Mr. Riki Ellison:

Okay. Thank you. Our next guest is our Advisor to Europe, a good friend of our NDAA, a former 10th AANDC Commander, which is the Air Defense Commander of Europe. In the past, the 10th AADNC commander also was responsible for Israel and its defense with the U.S. partnership in doing that.

Mr. Riki Ellison:

Today, it's been shifted CENTCOM, but Dave was there when he did that relationship. He worked the big exercises of Juniper [inaudible 00:34:42] that's going on. I would say to everybody, it's good that it's moved to CENTCOM, because look what's happened in Europe. The U.S. needs to be able to focus their assets on Europe with U.S. EUCOM and not be able to take away those things if something happened in the Middle East and let the Middle East take care of it.

Mr. Riki Ellison:

Dave, welcome. You have a lot of experience here and we certainly would love to understand the American relationship and what the capabilities and how that relationship, as I was talking with Shachar, how we got that and the benefits of that.

COL (Ret) David Shank:

Yeah, thanks, Riki and thanks to the Missile Defense Advocacy Alliance again, for having me back. It's great to be here and great to be with Tal and Shachar and Mark and yourself. Again, great to be here. I want to follow suit with Tal and Shachar in my initial comments. That's one of four points I really want to discuss, if that's okay.

COL (Ret) David Shank:

The first, and it goes back several years, you mentioned 2010, since you've known Shachar. Well, that's about the time I was on the 32nd Army, Air and Missile Defense Command staff, coming out of my first Patriot Battalion. At Fort Bliss, Texas and I-

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COL (Ret) David Shank:

...and at Fort Bliss, Texas, and I followed the battalion operations officer and executive officer time and became the chief of plans at 32nd Army Air and Missile Defense Command. And that's really the first time for me that I began to learn a great deal more and understand the operational level of war-fighting at that one-star command. I learned who the Al-Ghadr Missile Command was and what that wire diagram or that line and block chart looked like all the way up to the ayatollah. And I gained a very good understanding of who the decision-makers were within that very complex framework of the Iranian missile defense and who those authorities were to make those decisions. I learned a great deal. As Shachar mentioned, he was talking about the four pillars of air defense, and not to rehash that, but we're all very familiar with the active and the passive pillars, but then, of course, you have the command in control, and you have the attack operations.

COL (Ret) David Shank:

Well, why do I bring up attack operations? Well, very briefly, we all know the Iranian regime, they have thousands of long-range rockets, cruises missiles, short-range ballistic missiles, medium-range ballistic



missiles, and my point here is any nation in the Middle East, specifically Israel, you're outgunned, so to speak. So again, something to pay close attention to, and again, it goes back to those four pillars. So that's the first point I wanted to make. Second point, Riki, as you alluded to, and again, what my two predecessors mentioned, is that layered air and missile defense within the state of Israel. So they've got from counter-UAS capability all the way up to the arrow capability, and then, of course, in between, you've got the Iron Dome, you've got Patriot, you've got David's Sling, and that's just within the state of Israel's defense network.

COL (Ret) David Shank:

And, of course, while you have all those kinetic capabilities, you can't leave out the sensor network and what that architecture looks like and the integration of that architecture in order to make timely decisions at the right echelon. And a great case study here is the state of Israel, and who's got a greater layered air and missile defense in the world? I don't think anyone does better than the state of Israel, based on the capabilities they have at hand, what they've positioned, rightfully so, throughout their country. Their relationships, as you mentioned, between the US and Israel, you talked about the Juniper series exercises, Riki. Shachar mentioned the doctrine. You mentioned the bilateral relationship, and I'll come back to bilateral versus the challenges once you get beyond two nations and agreements and rules of engagement.

COL (Ret) David Shank:

But sticking with the Juniper Cobra and even the Juniper Falcon exercises that are every other year, and they offset each other, but what a series of exercises for the US and Israel to work together. Personally, no stronger relationship in the Middle East than the United States and Israel. I'm a little biased. I had the opportunity to serve there and work shoulder-to-shoulder with my Israeli Air Defense Force counterparts, the commander, the command level, the deputy command level and then, of course, all the way down to Iron Dome platoon leaders, Patriot battery commanders, and so forth. And I say I had that opportunity. Well, so did each of the soldiers that fell under my command at 10th AAMDC. And they were special relationships, and clearly we understood the challenges that exist every day for the state of Israel.

COL (Ret) David Shank:

Tal described some of the adversaries which surround that nation. Shachar mentioned some, Hamas, Hezbollah. You talk about Yemen, you talk about Syria and, of course, Iran itself and any other proxies that I failed to mention. But the relationship that's established, whether it's through those exercises, whether it's through key leader engagements, whether they're combined working groups semi-annually between the 10th AAMDC staff at the time and the Israeli Air Defense Forces. The staff rides that I was able to, along with a few of my subordinates, to participate in and where you clearly understand the history of truly what has transpired in the Gaza, what is the importance behind the Golan and the wars from '67 and '73, and to hear at the time platoon leaders and company commanders who are now older gentlemen provide you this firsthand knowledge, it's very eye-opening.

COL (Ret) David Shank:

And again, it goes back, it comes full circle to building that relationship and gaining a much better understanding and appreciation for our partners in the state of Israel. One point I did want to make out, the very first... I took command at 10th AAMDC on a Friday. On Monday morning, the following Monday morning at 0730, my first office call was with the IADF commander in Germany. If that tells you the



importance of the relationship, I'll tell you what. Another point, kind of subordinate, really, to the exercise piece - we didn't talk much about it - is the Israeli Test ed and the modeling and simulations that take place.

COL (Ret) David Shank:

And again, these are Americans, not just soldiers. In some cases, these are sailors as well, because when you think sailors, you think the Aegis cruisers and destroyers that are also participants here in the air and missile defense realm of things, but the opportunity to go through a current threat set, future threat sets, and through that modeling and simulation where Americans and Israelis are work inside by side, so I think very important to talk about that. And then the last point I wanted to talk about, how do we see... I know the topic, Riki, is Iran and authoritarian regime, so I mentioned the bilateral relationship earlier, and we're all well aware of what's going on today in Europe within Ukraine and the further invasion that the Russians continue into that sovereign nation. And so what are the challenges?

COL (Ret) David Shank:

Well, I mean, it was reported over the last 48 hours that the US are moving Patriot, the weapon systems, into Poland. Well, there's a large number of NATO forces that have since moved into Poland beyond what the standard day-to-day operations that were taking place prior to the further invasion. There's reports that the Dutch and the Germans are supporting an additional battle group that's moving into Slovakia with the Patriot system. The importance here is how are these Patriot systems, whether it's just those Patriot systems initially, and then if more or additional Patriot systems or a THAAD battery or batteries are positioned, what does that architecture look like? How are they sharing early warning? All things to consider, and again, you go from a bilateral relationship, US and Israel, and now you're talking about multiple nations, and it's very challenging.

COL (Ret) David Shank:

It's very challenging. So the current commander there of 10th AAMDC, subordinate to US Army Europe, working side by side with US Air Forces Europe, and ultimately answering to the European Command Commander, General Wolters. There are some challenges at hand. Last point, we've seen on TV, in the news, and open-source articles what the Ukrainian Air Defense Forces are able to do, and some of them are most likely not Air Defense Forces. Those I'm talking about are those managing the Stinger missile capability that several nations have contributed. And so we've seen what a AAA weapon system, anti-aircraft weapon system, what the Stinger capability can do, and then, of course, the Ukrainians also possess the S-300, a very formidable weapon system. Some would say it's antiquated, but I guarantee you that Russians are well aware or at least doing their part to template, the aviators are, to template where those S-300 S are so that they can fly around and not through, or they're going to have a bad day. Riki. I'll stop right there.

Mr. Riki Ellison:

Okay. Thanks.

COL (Ret) David Shank:

And pending your questions.

Mr. Riki Ellison:

Yep. You mentioned those pillars, and there's no question. I think one of the greatest things Israel does is they're passive missile defense, their warnings with their public population to get under shelter, their layered defense, but what I think is really unique is their synergy with their offense with missile defense. We're not like that. We're not like that. I don't know if it's policy. The United States is not as far on a strategic and tactical meshing of offense with defense to create that deterrent that is there for them. So I was just wondering, is that something that the US, you think, is moving towards? I mean, we're operating base defense, really been keeping that separate. Is this an example of something that we could do?

COL (Ret) David Shank:

I think the US Department of Defense is moving in that offense-defensive integration capability, whether you want to talk hypersonics, whether you want to talk mid-range capability, MRC, which is going through research and development, some testing right now, but, we're familiar with the US Navy...

Mr. Riki Ellison:

But they're F-35s. They're F-35s. You're in the fight with their missile defense capabilities. We're not there yet. That's legit., and they're doing that because that's what they see is legitimately creating a better deterrent for them. We're not there yet. I don't [inaudible 00:47:52].

COL (Ret) David Shank:

Yeah, no, no. I agree. We're not there yet. And you're right about the F-35, and that goes back to the sensor network. If the F-35's passing data to a ground weapon system or vice versa, if another capability is passing sensor data, some type of track data, to an F-35 or another fourth- or fifth-generation airframe, yeah, you've got that offensive-defensive integration.

Mr. Riki Ellison:

Thanks, David. Now we'll go to Mark on our board. He was the deputy commander for the J5 for the European Command. That had Israel underneath it as well, so he was in charge of plans, policy, and strategy. So Mark, welcome. Your input would be great.

RADM (Ret) Mark Montgomery:

Thank you very much, Riki. It's been great listening to all three. I'll kind of try to really fixate on Iran here, and I think their ballistic missile arsenal is growing in size and quality. I think that was described. It's definitely a threat to US interests and allied security in the greater Middle East. What we're seeing is Iranian improvements to ballistic missile accuracy, range, mobility, warhead design, and survivability. This really implies an increasingly robust long-range strike capability in the hands of the world's foremost state sponsor of terrorism. Their diverse ballistic missile program is an outgrowth of their experience from the Iran-Iraq war, where they felt the need for an imperative of deterrence and self-reliance. It's been sustained by a lot of backing from their elites, and in the end, it offers Tehran the means to deter, punish, and coerce adversaries.

RADM (Ret) Mark Montgomery:

Now, this makes up for conventional war fighting deficiencies, but it also keeps the door open for nuclear weapons on them, so really significant issue. Even since agreeing to the comprehensive plan of the JCPOA nuclear deal in 2015, they've launched or tested at least 108 ballistic missiles from their own

territory. As most of us know here, ballistic missiles were not addressed by the JCPOA, which is a big flaw. So given the centrality of ballistic missiles to Tehran's security and defense policy, Iran is really unlikely to curb its missile program absent sustained pressure. Even then, our pressure's probably only going to impede rather than end their missile aspirations, and we have to be careful trading away sanctions leverage for political agreements in this ICBM world. They don't make sense, and the JCPOA's resurrection makes a lot of us very nervous.

RADM (Ret) Mark Montgomery:

There are a lot of things we can do, though. I mean, we and our allies and partners have a lot of options in the diplomatic, military, economic and intelligence fields. I'll just tell you, in diplomatic areas, we can continue to enforce UN Security Council resolutions related to Iranian weapons proliferation. We can work with partners to resurrect the UN arms ban on Iran. We can press for unilateral adherence to international control regimes, and we can support the Proliferation Security Initiative. Also in diplomatic areas, we can continue to prosecute those exporting US-origin goods to Iran, and there's a number of those, and we can diplomatically make regional air and missile defense a priority. In the intelligence world, we can use satellite and other capabilities to publicize Iranian missile launches. We can task our own IC to report on ongoing cooperation that we see between, let's say, Iran and North Korea, and we can disrupt Iranian missile technology procurement networks.

RADM (Ret) Mark Montgomery:

Militarily, there's also a lot we can do. We should discourage the Gulf Cooperation Council states from purchasing any air and missile defenses from our near peer competitors. I think that's risky for integration later on. We can work towards developing a regional missile defense architecture that benefits the US and all its partners. We can continue the appropriate arms sales to those GCC partners and, obviously, Israel, and we can try to increase US-GCC and US-Israel military exercises, maybe even with all of us in there. This has happened in a very limited way like, say, during Iron Union. We can help GCC states in Israel cooperate together to the degree that it's US technology. And then looking at our own stuff, we can harden our bases better. We can protect our personnel by actually building the next-generation Indirect Fire Protection Capability, or IFPIC. We can continue developing our GPS jamming capabilities.

RADM (Ret) Mark Montgomery:

We could support space-based warning. We could develop Left of Launch. There's a lot of opportunities out here for the United States. And then we could even go into the kind of economic road and continue, like I said, global missile sanctions, and even kind of explore expanded sectoral sanctions against Iran and specific sectors, including sanctions on metals that are critical to the missile program. And we can continue to sanction and expose Iran's procurement and proliferation networks, which don't just support themselves but support the terrorist groups that they sponsor. And we can encourage our partners to do the same in sanctioning Iran's missile program. So there is really a lot to do diplomatically, intelligence-wise, militarily, and economically to get at this, but we definitely have to get at it. The Iranian ballistic missile threat, it becomes more and more significant every passing quarter. Riki, I'll pass it back to you.

Mr. Riki Ellison:

Okay. Hey, Mark, just layman's terms, how do you bring Israel into the GCC with missile defense? How is that possible? I know we started the relationship, but how can you grow that? Because if they're in

there, right, they're in there, and creating that kind of relationship with the GCC with the common thread of Iran would be huge, but the history, and we know all that, so what's the steps, you think, to really move this into where they can share...

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Mr. Riki Ellison:

... steps you think to really move this into where they can share information or actually have common weapons systems, or share that. Is that too far out, or what is the [crosstalk 00:54:11]-

RADM (Ret) Mark Montgomery:

No. I mean, it's baby steps, right? Both sides will probably assume that the other side's intelligence agencies are involved in a deceptive way in the sharing. Which probably, I don't know that would be true or not. But we've done this, we did it with Japan and Korea. We did ballistic missile defense exercises, we've shared tracking. Where the US served as the neutral arbiter as information came in. So that by the time the crane information left the US system, it was US signal going to the Japanese, and same with the Japanese going. It was still real time information. It was still effective for missile defense. There's a possibility there.

RADM (Ret) Mark Montgomery:

But look, the GCC first have to get their own act together. The difference between into operating skills of the GCC in Israel is, enormous. And so they have to get their game up, but as they get their game up, there are ways that we can along the way in parallel build those relationships that could make information sharing of value. Certainly, each of us understands why radar information from a very specific area has value to someone significantly distant away. And so there is value in this information sharing, but it would be a long thing. But we've done it with the Japanese and Koreans. We're not doing it today with the Japanese and Koreans, but we've done it in the past. It's doable. The United States can be a useful arbiter, neutral arbiter in that regard.

Mr. Riki Ellison:

Can I ask you one more? Their Prime Minister is in Turkey right now, so how could they leverage a missile defense? Both of them got TPY-2 radars, our TPY-2s in there. Is that, as a NATO reliance, is that too far out? Or what's your thoughts on... And I'll open up this to the Shohat as well, too. But just initially, is that a positive thing going forward for sharing too far [crosstalk 00:56:13]-

RADM (Ret) Mark Montgomery:

I mean, shared exposure to different systems and information is a good thing. But really, this has to be a very specific effort against the common adversary of Iran. But like I said, I really think some more work needs to be done on the GCC side. Now look, UAE has some significant capabilities, I'm not saying they don't. I just think that as a group it's a pretty mixed bag. I'll pass to someone else if they want to take a whack at that.

Brig Gen (Ret) Shachar Shohat:

I'm kind of agree with Mark, my friend. Testing the Israeli case, that we do not have a strategic death, or maybe we don't have a death at all in the size of Israel. So while moving from a battery configuration to

array configuration, and as Mark mentioned the capability to have a remote detection that gives you more time to be prepared, that can give you an external cue. And if you are interoperable, maybe even an engagement remote while you don't have any detection of the system. And sharing it between ground forces and air forces, this is a dramatic difference between the old frame of dependent, independent battery, which is not sharing any capability with the other. And I think this is a crucial necessity these days in order to face the challenge.

Mr. Riki Ellison:

Mark, do you want to open it up for questions now?

RADM (Ret) Mark Montgomery:

Yeah, Riki, I will. I got the first one here. There's some good ones in here. First question is, what is Israel's approach to surveillance to countering low flying cruise missiles? Is it elevated sensors of some kind?

Brig Gen (Ret) Shachar Shohat:

I will try to take this one, Tal, if you let me.

Mr. Tal Inbar:

Yeah.

Brig Gen (Ret) Shachar Shohat:

I think, again, it's a mix. It's a mix of elevated sensor, of ground sensor, of electric optic sensor. Not only radars, but also electro optic. [inaudible 00:59:04] have a very advanced electro optic system. And of course, external capabilities, we are cooperating with the United States, with the shared early warning program, either it's a satellite or TPY-2 radar as Rik just mentioned

RADM (Ret) Mark Montgomery:

Anyone else want to comment on that? Otherwise, I'll move on to the next. Okay. The UAE is extremely... I'm afraid this is coming right back at you. The UAE is extremely interested in obtaining Iron Dome and David's Sling, what is Israel looking for from the Gulf countries theoretically in exchange for these technologies? And what is the panel's assessment on how well both are suited to the specifics of Iranian missiles shot into the UAE?

Mr. Tal Inbar:

Shohat, let me just say that this is a political question, not a technological one. Of course, the UAE is threatened by, again, from drones through rockets, and missiles. And they successfully intercepted, I think it was the world first operational interception for the THAAD system that they have. Technically speaking, of course, UAE has a lot to gain from such systems, proven system like Israel has. But the question is not how to, let's say, transfer the technology and sell several batteries, it's a political question. And I believe that no politician is part of the conversation here tonight.

Brig Gen (Ret) Shachar Shohat:

I will try to avoid the political issue, but still give you some type of an answer. Having said during my short brief that I think that Iran is not only a problem for the state of Israel, but for the stability of the

entire region. And I mentioned also the Emirates in that, and we saw it in Abu Dhabi, in Saudi, in Dubai. So I think this challenge is an opportunity for the leadership to find the common ground. And I think that air defense, because we are talking about defensive means, because we are talking about saving life, is a good ground for initial [cooperation 01:02:02]. Unlike the attack, which are very sensitive and problematic. So I see it as a good opportunity for the new era.

COL (Ret) David Shank:

And Mark, if I could build on that. And really, it's a build on the first question as well. As Shachar, he talked about the sensor network for the state of Israel in response to the first question. Taking question number two a step further is the refinement, the improvement across the GCCs with their architecture and their network of sensors. And how they share that information in order to, what I call, step one of a three step engagement process. Is, you've got to sense that enemy threat or adversarial threat initially. And then step two, you got to share that data. So that shared early warning network that was mentioned, how are sensors connected from a variety... From ground based sensors, elevated sensors, space based sensors, airframes and so forth. Thanks.

RADM (Ret) Mark Montgomery:

Hey Riki, I recognize we're almost out of time here. I wanted to give you a chance to wrap it up with any final thoughts you had.

Mr. Riki Ellison:

Well, I think that Ukraine situation has put a spotlight on the world's best defended nation, and that is a catalyst for Israel to be able to duplicate what they've done. And I think it's even bigger in that movement for the GCC, as a collective group, where they're going to do historic pioneering to bring together a group of countries that you would never thought could come together under a missile defense concept. Iran's driving this through its threat, it's driving a bigger defended region that's creating trust in relationships, but we have to also know how great our relationship and how great the interoperability is, and that doesn't come all overnight. That takes years a little bit to create that. So that movement, I think, is upon us. And we've got a revolution coming forward with this. I'd like to pass it over to everybody just to do a closing remark. So Tal, you can go.

Mr. Tal Inbar:

Well, I think we said it, missile defense is hard. We can do it. And I think what Shachar said, it's absolutely correct. The cooperation and collaboration is very important. Just the bear in mind, it was mentioned in the Israeli media today that our chief of staff is now in Bahrain. So the whole region could gain a lot from early warning to defensive systems, and to share the operational knowledge and experience is another issue. I don't think that the neighborhood will be much more pleasant in the near future, so the challenges are ahead. And every time and every conflict in the world, and we as Israelis has a lot of learning to do from the Ukraine, even though the situation is quite different. Super power, or what was considered as super power like Russia fighting a relatively undefended country. So the lessons are yet to be learned from all types of conflict. And the cooperation between nations in the region is, of course, a major step to the future to mitigate the Iranian threats.

Mr. Riki Ellison:

Thank you, Tal. Dave?

COL (Ret) David Shank:

Just a couple points. One I failed to mention earlier, today, or this time three years ago, we had [inaudible 01:06:46] along with [Konas 01:06:49] based assets, deployed the THAAD weapon system into the state of Israel. So as part of the dynamic force employment. And as we've talked about previously, nothing says deterrence like the repositioning of a THAAD battery. So, worth noting. Tal just mentioned it, Shachar mentioned it earlier, but this is about when I talk US-Israeli relationships, bilateral. If you talk greater than two nations, it's about trust in the end. That bedrock. Tal just mentioned that cooperation. It is. It's about the trust, it's about the teamwork. It's about open communications. And there is a policy side to all this, it's obviously not just the defense. And I bring that up because the common denominator across all of those attributes is leadership. And leadership at the right time, at the right moment, making decisive decisions and timely decisions. Thanks again for having me today, Riki. And thanks to the teammates on the screen.

Mr. Riki Ellison:

Mark?

RADM (Ret) Mark Montgomery:

Well, obviously I'd say that the best side of deterrence is a carrier strike group, but I'll let Dave off the hook on that one. Hey look, this is important discussion. Iranian ballistic missile capability has been a general upswing. Every once in a while they have an accident, somehow. Somebody gets killed or something blows up. But generally speaking, they've been on a significant upward trend, and it's between linear and exponential. What that means is they're introducing a lot of risk for all of us. And therefore, we need to make the investments to reduce that risk and make sure that our troops and our allied partner troops are well protected. Good discussion topic, and look forward to working on the solutions.

Mr. Riki Ellison:

Thanks, Mark. All right, Secretary, you get to close it.

Brig Gen (Ret) Shachar Shohat:

Thank you, Riki. Thank you for giving me the opportunity. Tough neighborhood, the Middle East. Maybe the entire world is a tough neighborhood. So for us, necessity is mother of all invention. We have the privilege to be close with the operator and the developer, since we are the industry. People from the armed forces reservist, we understand the urgent need and to always try to be, and this is the challenge, a step ahead with a defense system to the threat. And this is our challenge. Thank you very much for having me. I enjoyed the intellectual conversation. See you next time in Israel.

Mr. Riki Ellison:

Thank you. Thank you. And what an honor to have a live discussion from Jerusalem. Just spectacular, on one of the world's best defended nation to look at the opportunities that are ahead of us and the trust and the breaking through old relationships to create something much bigger than we've ever been before to make the world a safer place. So thank each of you. Bless you from Shalom from Jerusalem. Good night. (silence)

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