MR. PETER HUESSY: Good morning. My name is Peter Huessy and on behalf of the Reserve Officers Association of America, the National Defense Industrial Association and the Air Force Association, welcome to this in the next in our series of seminars on missile defense, homeland security and nuclear deterrence. Today we are honored to have the master rocket maker from the Middle East, Uzi Rubin, formerly head of the Israeli ministry of missile defense office. I call him the father of the Arrow ballistic missile defense program. And he will describe to us the threats and the issues having to do with missiles in the Middle East and what not only Israel but here allies in the United States are doing with respect to protecting our security interests in that area.

I also want to make a note that those of you interested in the nuclear deterrent proposals of the Bruce Blair, General Cartwright group in terms of going to 450 warheads and getting rid of Minuteman and de-alerting all our warheads, Mark Schneider who did this in the Pentagon for 20-some, 25 years, is now with the National Institute of Public Policy, is speaking next week on the 20th. And I have a paper which I can circulate to you if you’d like it, on this very issue. He’s going to be talking about the connection between that and Russian perspectives on nuclear weapons and nuclear deterrence issues. So it’s an extraordinarily good paper. And as you know, Mark is one of the top thinkers in this business. And it’s hoped that you will come and hear us. And if you haven’t signed up for the series would you let Sarah or I know down at the Air Force Association, and let us know that you’re coming.

Dr. Rubin, thank you for coming all the way from Israel for breakfast.

(Laughter)

We’re honored. You can stay for lunch and dinner too. Uzi will have – this is on the record and I hope he’ll be able to share some of the slides with us down the road so I can distribute them to you.

So I want to also thank our friends from the Israeli embassy and our other foreign guests that are here today. General Gard is here, former past president of the National Defense University, and our guest here. And I also want to thank – a number of my former speakers are here. Clare Lopez and General McInerney are here today as well.

So on behalf of our three sponsoring organizations and our industry sponsors, Uzi I want to thank you for coming here to talk with us today. Would you give a warm welcome to Uzi Rubin?

(Applause).
MR. UZI RUBIN: Good morning, everyone. It’s a pleasure and distinction to be here again, my second or third or seventh year, I don’t remember.

MR. HUESSY: Twentieth.

MR. RUBIN: Well, whatever.

(Laughter).

Each year at this time it’s taking you facts, going to Washington, beautiful Washington to see. You may have been here in February or May, it’s much nicer now. And it’s a real distinction to speak here.

This morning, usually I brief you what happened last year, here about every year at this time of the year. And in our area of the world things are really dynamic, in everything, and in the missile area. So I speak today – last year my speech was entirely involved about what is called in some places the Arab Spring. And believe me, not many people in Israel call it a spring.

Well, it’s something. We call it an upheaval. I call it an upheaval. So we are about one year on and I’d like to share with you what I think has been happening, although I don’t know what will be happening.

I’ll talk about the Eastern Mediterranean. There is a new theater coming in kind of a stealthy way becoming more and more of a flashpoint. I’ll talk about the North Korean and the Iranian connection, something about the Iranian’s too. And finally I’ll end up with what in Israel was really the big event in missile defense, the first time of tactical missile defense in action.

So let’s re-visit the upheaval in the Arab world. And defining the Arab world is quite difficult. I just counted out the main countries. I didn’t put Sudan, but Sudan is part of it.

And I didn’t put Turkey in because it’s not sure where Turkey is, whether it’s in Europe. About two or three years ago I’d say Turkey is Europe. Today, I’m not so sure. But anyway, it’s not a direct part of the upheaval.

And remember that six countries were involved: Tunisia, Libya, Egypt, Syria, Yemen and Bahrain; four of which have a considerable arsenal of missiles. Yes, believe it or not, even Yemen has a considerable arsenal of missiles. Why they need ballistic missiles, it’s a good question. They fired them against each other in a civil war that they had back in 1995. But the missiles are still there and they are updated, kept and new ones purchased from time to time.

So my question at that time was, what will happen to those missiles with the upheavals? Some partial answer, unfortunately, is now quite obvious. Three of those countries, there was a regime change, in Tunisia, in Libya and in Egypt. There is still fighting going on – actually it’s becoming mostly in Syria, and we’ll talk about that a few slides down. Both the Syrian Free Army and the regime refuse to
call it a civil war, but it is a civil war. And in Yemen, there is something, a kind of an interim quiet now, but it’s not sure how stable it is. And in Bahrain, it’s mainly political unrest which is still going on.

But let me show one of the results that I was wary of but it has happened: collateral proliferation, especially from Libya. The Libyan missile stockpiles were looted and we see them now in several places in the world -- in Mali, the (north?) places along the border. I don’t know if you are aware, but in Mali al-Qaeda captured Timbuktu and the main cities and enacted Taliban-like rule: without music, with people wearing beards; women are kept home, and so on. It’s going back to a Taliban-style regime. And that’s done with Libyan smuggled arms.

Libyan arms are now in Somalia with the Shabeeb (ph). And a lot of Libyan arms are now in Gaza, some sophisticated stuff. So this is an unwelcome but predicted collateral proliferation for the Arab upheaval. Another proliferation on a smaller scale is from Syria with some Syrian arms apparently being move to Lebanon for safeguarding. It’s not exactly a proliferation, but the danger there is quite profound.

There’s two problems that Libya and Syria were (fleshed out?). They were actually under the radar, under the horizon. Nobody thought -- nobody saw pictures of Libyan missiles, or Syrian missiles especially, during the last 20 or 30 years. But the fighting fleshed them out and for the first time we saw a picture.

Here it is of a Libyan Scud abandoned in Benghazi, captured by the rebels. This is a Scud-B launch, just to show that the Libyans fired missiles from time to time. And rockets were extensively used during the civil war in Libya.

You see some pictures here of air-to-ground rockets used, improvised, on a ground launcher: 170 millimeter rockets, and what we call Katushka, a Grad-II 122 millimeter. And this is a very illuminating video-clip, and how they used that. Here are the rebels. You see their flag.

And there is this improvised launcher and firing at the government positions. And it’s very sophisticated. Not good. Well, don’t try that at home.

(Laughter).

More seriously, for the first time -- and I was agast when I saw it -- the Syrians -- the Syrians never published any picture of any of their missiles. They never published any picture of any of their combat aircraft until about a year ago. Completely opaque about their military power, the only Syrian weapons you could see was the weapons in the Syrian Military Museum in Damascus, until about two years ago when they for the first time had the fly-by demonstration of the air force; but never of the missiles.

After Qaddafi’s fall, apparently they were so shook up that on December 3rd and 4th last year, they had a demonstration of land-based missiles firing and anti-ship missiles, shore-to-ship or ship-to-ship missiles. A very impressive firepower and to see them doing this amazing -- I was so -- for years I was looking for -- I’ll start it again.
Before I start it, there are three types of missiles. This is Scud, which I don’t know which. It’s either B or C. If 300 kilometer, B; if 600 kilometers, C. They look the same.

This is an unguided rocket which we call SR-600. SR is Syrian rocket. And 600 means 600 millimeters, more or less. Unguided, but it looks very much like the Iranian Gisel.

And this is a sophisticated SS-21, Russian SS-21, that was used successfully by Russia in the war in Georgia in 2008. And it’s quite an accurate and precise missile. It did a good job for the Russians in suppressing the Georgian air defense. So let’s try to see this movie.

There is a lot of talking about defending the nation, defending the motherland. It’s propaganda. It’s propaganda to show that the military is control and they’re behind Assad.

That’s one message. The other message is don’t mess with us. You think you could do it with Qaddafi, don’t think about doing it with us.

There are 300 millimeter rockets, unguided rockets were sighted in 2006. The third one was -- (inaudible) -- and that unguided. Sorry about that. We have to – it has to do, I think, with the projector.

Let me re-start again.

Those are bomblets. As I said, those are similar to -- (inaudible) -- here is the unguided rocket very much like the Iranian -- (inaudible) -- but it’s a different rocket. The range is about 250 kilometers. Unguided, however – let me stop for a minute.

They have a guided version of it that they made themselves. Now this is another surprise, that the Syrians have not only acquired, but gone after their own missile capability. Very slowly, very methodically, in time, they have graduated from European universities – they built up the capability which is not yet an Iranian capability, but it is a capability. So they have a guided version which they didn’t show.

And now, see how purposely they hide the launcher. They don’t show the launcher. They don’t show the launcher. So it’s not known if this is an original Russian launcher or the North Korean-made launcher.

So this is quite considerable, significant, that they made this demonstration. But most significant, now we see video clips of seven missiles coming over a position. And here is the real significance of the thing – one of them is just a picture, I don’t have the time to run the video.

This is the over-running of a Syrian missile base near Homs. The missiles here are SA-2. They stand abandoned in the field. You don’t see any Syrian troops. Apparently the Syrian troops fled.
Now whether they took it over, I don’t know. There are some reports the Syrian military shelled this base in order to destroy those missiles. They are not ground-to-ground. As they are, they cannot be fired against a ground target. They’re an air defense missile.

But what’s more amazing, and this just came yesterday to me, and this is a Syrian Scud launcher in a convoy. Let’s see the movie.

(Plays video).

It is a Syrian Scud launcher, a battalion of Scud-B or Scud-Cs Syrian missiles moving in the open. Unbelievable. Moving in the open, during the day-time, with all their logistics. Taken by their position, you could think that there was a battle from a position that could take it over (by whoever was taking the picture?).

There are three launchers here. I’ll just cut it short. The clip is longer than that, but I identified at least three. And there were more but I’m not sure it’s not repeating the same video.

So this is really amazing. Why they did that risk of moving those missiles during the daytime in probably a hostile environment? Who took pictures of them? Just think about (others?) taking over those missiles. And then, God knows where they go.

So this proliferation -- (inaudible) -- is a real danger. The Syrians don’t have nuclear but they have chemical weapons. They have chemical warheads for those missiles. Just think about that. So I don’t know, I’m not recommending to do anything about it, but I’m saying that this is a threat I was sorry to predict last year and it now seems to be more imminent than a year ago.

In Yemen, it seems stabilized. If not, you will have the same danger. However, the Syrians made even a more powerful demonstration the same day or the day before with an anti-ship missile. You see here they fired in front of the camera, again for the first time, obviously to discourage the West.

We are not Libya. We are not Qaddafi. Don’t send your NATO flotilla because that’s what we are going to do to them.

The CAO2 (ph), the Chinese missile, comparable to the Harpoon, which was used against our ship in the second Lebanon war. A Silkworm, a modernized Silkworm, and the most deadliest of them the Hom (ph), which is the Russian missile, supersonic. It flies at mach 3 and flies supersonic above the water. And this is the most capable, I think, may be the most capable anti-ship missile now in the world. Let’s see the movie again.

(Plays video).

Here is the Chinese missile taking off. It has a booster and a jet engine. Here you see the launcher, Chinese-made launcher. And again, all this soundtrack, the voice track, it says we’ll defend our country, Syria forever, and so on and so forth.
Here’s a ship behind the Silkworm. All the Soviet Styx modernized by the Chinese. It’s taken from the back from the missile boat, they’re firing it. And here is the F-1 (ph).

And then here they show the launcher. Amazing. They show the launcher to show it’s not a fake. They have the Russian equipment. It is, as I say, very capable, and they are going to use it.

So I think this is even more significant than the footage that we saw before because the eastern Mediterranean is a theater (for several things ?). First, the EPAA, which was proclaimed operational with an initial operational capability at the Chicago summit a few days ago, has now the X-band radar in Turkey and patrolling Aegis ships in the eastern Mediterranean. And here is the deployment area of the Iranian missiles that can threaten Europe.

If the Hom is fired from anywhere near the shore of Syria and Lebanon it can reach all the way here, almost beyond Cyprus. And this is now a keep away zone. That means the geometry of the EPAA could be affected. I do not think critically, but could be affected by the presence of these missiles.

But there’s another threat here which has nothing to do with the EPAA, but with Israel and the whole region here. The eastern Mediterranean turned out to be a resource rich area. And that was good enough to show it has a lot of gas and probably oil under the sea floor there. There are several gas fields which are already producing. One of these is now supplying Israel. And the latest is going online next year.

The greatest, the largest is Levitan (ph) which has enough reserves, so they say, to feed Israel with energy, make Israel energy independent, for 50 years and perhaps export. And maybe there is oil under it. And the Greek Cypriots are starting to explore here.

All the countries under international law that can exploit this are all the littoral countries: Turkey, Syria, Cyprus, Lebanon, Israel, the Palestinian Authority – they have some rights on part of the (Moly B) Field – and Egypt, which I didn’t show here, is already exploiting it. Just this list of countries shows you the problems that are going to arise.

Turkey and Cyprus are already squabbling about it. And Lebanon and Israel – Lebanon and Hezbollah, which already claims that the international line lies between Israel and Lebanon actually goes south of where it is and part of Levitan belongs – it claims part of Levitan for Lebanon. So it’s now referred to the United Nations, but bullets can fly. This is probably a prospective explosive zone.

Now those gas drilling rigs are huge installations as big as aircraft carriers. And we have now in the eastern Mediterranean we have the Syrian with the Hom (ph). Those are classic targets for such missiles. So they’re sitting ducks. You can blow a whole derrick like that with one missile.

The Hezbollah has the Chinese CO2. We saw it in action already. And believe it or not, the Hamas already has Chinese missiles.
This is a shipment of missiles that our navy captured about a year and a half ago from a cargo ship called Victoria. It was boarded. The captain and the crew didn’t even know that the shipment was there. Several containers included -- (inaudible) -- all on their way to Hamas in Gaza.

So we caught some of them, but who knows how much we didn’t catch. We have to take into account that they have those missiles. They have a slightly (shorter range) than the CO2, but the Hamas now can threaten our Moly-B field.

So this is a recipe for a blowup. And I turn your attention to what Israel is doing, among other things, is developing the Barak-8 air and missile defense system, mainly against sea-skimming missiles. It doesn’t have a capability against (ballistic ?) targets. But knowing Rafael people, if the need will be, it could become a mini-Israeli Aegis.

Going from there now to the other side of the world, to Korea where we have seen the big parade, the ascension of the new ruler there and big parade, there was the launching, the failed launching of a satellite. I was much impressed by that. That was a satellite launcher that failed because satellite launchers fail from time to time. We know that.

The United States -- by the way, everybody was happy about the failure and thinks this is significant -- should remember the United States when it went into the space age in 1957-'58 in the first year tried six times to orbit satellites and failed in four cases. Two out of six. That was the United States.

So orbiting satellites is a risky business. So I’m not impressed by that. And that was a satellite launcher because it was 90 tons. This is not a ballistic missile. They have ballistic missile technology, but it wasn’t in configuration.

What’s more significant is this animal, which was called KM-08 on this huge launcher. Everybody zeroed in immediately on the launcher, but I was more interested in the missile itself, what it is? First question, is it a mockup or a real missile? Obviously from the picture it’s a mockup, or partly a mockup. You can see the -- (inaudible) --, you could see there was some structure covered.

That doesn’t mean a thing. It could represent a real program. And that’s really the question that researchers, analysts and the community of open source missile researchers are arguing back and forth. Is it a real missile, a real program represented by a mockup, or is it just a figment of some mockup imagination maker – imagination from mockup maker?

It’s in debate. I’d say most of the researchers believe it’s a real program. Where the program is, hard to say, but it represents a real program because it looks to business-like.

Another thing, the North Koreans were very careful to show the pictures from angles where you couldn’t have – didn’t have any visual clue. You can’t take measurements. So estimations about its diameter and from there its length and its range are very different.
One group in Germany believes – and I think I tend to believe in this and think the numbers are plausible – 1.8 meters for the first stage, 1.25 which is exactly the second stage of the Sajil (ph) second stage launcher, length of -- (inaudible) -- 17 meters, take us about 25 to 45 tons. And the range should be about 7,500 kilometers. This is in great controversy with another group in Israel which is going to publish now that the diameter is 2.1 meters. It makes a hell of a lot of difference. And the weight is completely much higher, 10 percent higher and the range is different.

But this range makes sense to me, some kind of logic, because if you look at the Pacific you see distances: Tokyo is about 1,100 kilometers, to Guam 3,500 kilometers, and to Honolulu 7,400 kilometers, more or less. And if you took the missile – here is a Nodong to Tokyo; the BM-25 to Guam. So it makes some sense that the next step would be a missile against Hawaii.

Seventy-five hundred kilometers cannot reach the lower 48 states from North Korea. But it makes sense that Hawaii would be the next stop. Of course, if I’m wrong and the diameter is 2.1 meters, it’s an ICBM. But I’m not sure about that.

Has it any connection with Iran? Well, this is a beast we haven’t seen in Iran, but some of the hardware we saw in Iran. You see the flame dispersing table on the rear of the North Korean missile and the Iranian Shahab are virtually identical. The same (workup ?), the same designer.

My impression is that it’s shared technology, but not necessarily the same program, especially as our minister Yalon (ph), the chief of staff -- (inaudible) --, made a startling statement at a conference in February which didn’t gain much publicity, to my surprise. He said that Iran is working on its own 10,000 kilometer ICBM, which would be a solid propellant. He made that statement. So that’s another reason why I don’t think this North Korean is related with the Iranian one.

Going from there to Iran, one interesting fact about Iran last year is that nothing happened. Nothing happened at all. There were very frequent displays and tests and tests and then quiet.

The last test that we heard about was in February 2011 and they didn’t admit it. They were leaked out and were disclosed by the United Nations, and then they admitted that they made them. From that time, we don’t know about any tests in public, no announcement of tests, no announcements of any new missiles, nothing unveiled, no televised demos – this -- (inaudible) -- firing.

They are running six parallel programs, so this cannot be something that is some kind of hiatus because of some programmatic reason. It must be politically motivated. A time to pull back. A time to reduce the profile in order to ease pressures.

They are under pressure. They are under stiff pressure by the American sanctions and by the threats from Israel of military action. And it would make sense for them to kind of calm things down and say we are good guys, we don’t want to be attacked.

However, there’s no question that their programs go on. We see it from the accelerated pace of the space program. Apparently, they believe that the space program is completely disconnected from
missile program. They understand that they are banned from doing missile tests, but it doesn’t include in their mind the ban on space testing, so they test again and again.

The first space launch was on February 3, 2009. In June 15, about the time I spoke here last year, they successfully orbited another missile. And lo and behold, about six months later at a tremendous rate, they successfully orbited another one.

Now they were supposed to orbit three months later another satellite. They were committed to that. Their minister of defense said May 17, that’s our date. Nothing happened, and there’s a big silence.

We hear there’s some rumors that the shot was delayed by one year. To my mind it means they are in trouble. Something happened. So maybe – I heard one reference that the launch failed. Maybe it failed.

However, the very fact that they had the missile, the satellite launcher on the pad to be fired, means that they are very, very active in this area. So I don’t think you should take this Iranian period of silence as a sign that they’ve tampered down or slowed down their missile program. They are going ahead full blast.

And I’ll just remind us they are not just making the missiles, they are also (siloing ?) them underground. For the first time, we see Iranian silos. This is part of a movie. They released a video clip showing one of the military – military journalists visiting an Iranian silo.

We knew about the Iranian silos from before. Pictures were out in the open. But for the first time, we see it from the inside. And here is the clip.

(Plays video).

The missile is a Shahab III -- (inaudible) -- if it is a Shahab III I say yeah, too, because we know the dimensions. They take a picture. We know the distance is 2.3 meters.

And notice how bigger the silo is. The silo is obviously designed for bigger and better stuff. And especially if you have another missile without wings, without – (inaudible) – such an enormous missile could go in.

So what is this bigger and better stuff that could go in? A good question. Why not the BM-25 with a diameter of 1.5 meters? Those are probably more – but that the missile exists we have no doubt that it exists. There are some researchers in Germany who still believe that those missiles really don’t exist and are just for show.

But those missiles, the second time they were displayed last April 15, the second instance on those, the SS-20 launchers. The range should be about 3,500 kilometers to Guam, so 3,500 kilometers from Tabriz bring you almost to the British channel.
And if the missile exists, EPAA is coming on time. That’s what you should do and what you are doing. So that could be the bigger and the better stuff that could go into this.

But this bigger and better stuff can go into other places too. I’m sure you’re aware about the great amiability and friendship between Chavez and Ahmadinejad. I just saw yesterday a piece where Chavez calls Iran our sister republic, no less than that, announcing the startup of a UAV factory that is assisted by Iranian-trained Venezuelan engineers.

And there were reports about Iranian missiles being acquired – ballistic missiles – being acquired by Venezuela. There is no confirmation to that, but the noise is coming since 2004. It’s coming thicker and thicker and some -- now don’t quote me I ask you, this is not in the open – personally I was advised that some Iranian missiles were seen in Venezuela. I cannot be more specific than that. One thinks about what should Iranian missiles be doing in Venezuela?

This is some missiles in South America. South Americans usually don’t go into missiles. The latest event was in Peru where Peru unveiled a missile called Huhuanochic (ph) -- I’m not sure I’m pronouncing it correctly – in 2007. I think it’s a hoax.

But in Venezuela the reports are about missiles in the Paragona (ph) Peninsula, which is the northern-most point of Venezuela. And I visited the place and this is Bogota, Colombia, which is the local contender in South America. Let’s look at ranges.

The Shahab II will not reach the Colombian capital. So why should they have a Shahab II there? I don’t know. It doesn’t make sense.

The Shahab III would cover the Panama Canal. But again, what are the important targets? It couldn’t be another sister republic, couldn’t be the target. The United States is almost out of range. Even the Sajil, if you take its range to be 2,400 kilometers, it’s covering a tiny part of the United States – although it’s already like the Cuban missile crisis.

So all this I’d say wouldn’t be a strong inducement for Chavez to acquire Iranian missiles. However, if you are talking about the BM-25, this is serious stuff. So this is where the bigger and better stuff could go, not only to Iranian silos at home. This is speculation, of course. I have no basis, no factual basis. But it is speculation that is worth, I think, thinking about.

So I want to complete, to finish this brief by going back to our region. We covered the Middle East. We covered East Asia. Let’s go back to our area of the world and in the last year the news was missile defense in action.

And that was quite frequent. We went over that many times during my visit with Hamas firing their home-made rockets and then Katushkas and the ranges growing and growing and growing until in 2008 they reached Ashedod (ph), my hometown, which lies about here. And I shared with you my experience of getting up in the morning, having my coffee with my wife, the alarm going off on.
Being an engineer I immediately started to count time: five, ten, to see – and then at about 65 the boom comes. I’d say, great work our early warning people. That was almost the whole flight time of the rocket. That means early detection was good.

It hit about 500 meters from our house. It didn’t cause much damage. Well, for years and years our cities in the south were sitting ducks for the Hamas rockets. You can see the numbers of rockets over the years growing in leaps and bounds.

In 2008 they reached such proportions that we couldn’t take anymore, and the Israeli military went to a major offensive which costs us a lot of goodwill in the world and created a problem for Israel’s standing and image. (Inaudible) – the dead Palestinians, nobody counted how many armed dead Palestinians. Every Palestinian is a loss to humanity, and I really grieve the children that were inadvertently killed. I’m very sorry about that. But I’m not sorry about armed Palestinians that were killed. They deserved it.

Anyway, perhaps our image was tarnished but our citizens had the relief. You see the numbers went down. Not only the numbers, the ranges also went down. And it turned back -- (inaudible) -- except that last year it started climbing again. But this time, the Israeli sitting ducks were firing back.

And we have with us the program manager of Iron Dome. Please stand up and be recognized.

(Applause).

And there’s Iron Dome to shoot back. The sitting ducks were firing back. Iron Dome, I explained – I described to you last year. I won’t go into technical detail, but just show you one slide that was shown by the program manager at an international conference, and it says “unclassified” on the bottom. So I am free – I feel free to show it.

(Iron Dome is designed ?) for small area defense. It can defend an average Israeli city. It requires to destroy the target by detonating the warhead of the target. You’ll see videos with explosion. The explosion you see is the explosion of the warheads – the target’s warhead.

I was showing it in a conference in Zurich three weeks ago and then a group of guys from another country took me aside and asked me very quietly, said, “You detonate the heads of the targets?” I said, yes. They said, “How do you do it?” So I used Peter Seller’s reply in one of his movies when they asked him how he stole the diamond, the Pink Panther diamond. He said, “It wasn’t easy.”

(Laughter).

And it’s effective against salvos. And the most important thing, selective interception. It doesn’t intercept any rocket. It sees what’s coming in, what’s not important, what’s going to hit an empty area outside of the defended area.

It doesn’t deal with that. And many of those weapons are not accurate rockets. They’re going somewhere.
So in the last year from April 2011 when Iron Dome was rushed into action, until March, we fought four rounds of escalations. Most of the areas, the nearest communities to Gaza were not attacked at all. Now that they have the longer range Grads, they don’t bother harassing our closes towns because you know the Sderot has 2,500 people. And if you fire a rocket at Sderot you put 2,500 people under shelter.

But if you fire at Ashedod, and you’ve seen the number of citizens, population there, you’re terrorizing almost a quarter of a million people. So it’s worth their while to fire the longer range rockets. And their main attack (is on three cities ?)

And initially we had only one battery in April, last year. And then two other batteries came online and defended very successfully, all those three cities. There are no official figures about the success rate, but the last time they (emerged in the open ?) information figures that I could get – I figured that the success rate was about 86 percent.

It was very successful, very, very successful. Believe me, you think about the 15 percent that leaked through, but those 15 percent not each one of them hit anything. So the number of real hits was diminished to almost nothing. If you talk about just the results and the terms of results of avoiding casualties and damage, it was amazing. The last round, we had no casualties to speak of, a few people were scratched, and almost no material damage.

They were firing. They were firing like hell, salvo after salvo for three days. They didn’t get through. So that was a very beneficial reaction.

(Inaudible) – it uncovered some self-confidence in our people, in our citizens. And we ask our citizens to take shelter even with the Iron Dome because it’s dangerous to stand in the open. Some of the rockets penetrate.

In August, we had one rocket that penetrated and killed a person in Beersheba. And even if they don’t penetrate, it’s simply dangerous to stand there because of the debris. You know, Newton, since he invented the laws of motion, all the debris of the rockets continues the same trajectory, because of the momentum. And debris can be dangerous by itself, can kill people.

So we ask them to – but no, they run out and when they hear the alarm instead of going in the ground they now take their video cameras and start taking pictures. Why? Because it’s excitement, but also because the newspapers are buying some of those clips and they can make money out of them.

So this is really mindboggling. Terrorism turning into entertainment and entertainment turning into business. It’s an unexpected effect.

And more batteries are now being manufactured. A fourth one is already online and more are being manufactured. Thanks to the generosity of the United States -- I really want to thank the government, Congress and president of the United States and the people for helping us so generously now with the $255 million that was already allocated, the $70 million that were released and the more money that’s being released.
It’s very urgent, it’s very important. Every life that is saved in Israel owes it to your generosity and I thank you for that.

So going back to our citizens running out and taking pictures, I have some clips of it. Some of them I showed last year; except the first one, all of them taken by citizens. Here you see pictures of Iron Dome in action. Notice this is two things.

First, the rounds that you are seeing going up it’s not training. Each round here is going after a real target that is aimed at a real city. And it’s not aimed to make a political demonstration.

And I heard one Palestinian saying at a conference segue, that those are not really dangerous rockets, they are political statements. And I said, the political statements have a warhead of 20 kilograms. They are aimed to kill. If they don’t kill it’s because of incompetence or because of our missile defense. It’s not because you don’t aim to.

Those rockets are going out to defend the city of Ashedod. You see here the (outskirts?) of Ashedod. And here is – I took this picture.

I couldn’t hold the – (inaudible). This is in front of one of the (older?) buildings. It’s back to the manufacturer. It’s the producer of the radar.

And let’s see some clips here. Oh boy, we have a problem here. I hope it will work.

(Plays video).

This is the first recorded hit, taken by the Israeli air force, but the only one. The rest – and here let me stop it for a minute. This is a journalist who very patiently waited by a launcher. He just stood over his camera and waited for things to happen.

Though it’s not allowed, it’s not legal, but he couldn’t be shooed away. He was standing there with his camera waiting for this launcher -- and this is the town of Aschelon – to go into action. And this is a beautiful shot that shows the whole (process?).

Now it’s going into the end-game, like a bat out of hell. It can turn on its tail at (zillions of g’s?) and that’s it. End of the rocket. Again, you see the plume is the exploding warhead of the rocket itself.

Now this is an interesting sequence. This is rapid fire in Askelon in April last year of two fired against the same target. The first one hits it, and let’s see what happens to the second one.

(Video played).

There it is. The target gone. Now comes the second one. It has no target, so it goes down and maneuvers and goes – it’s called the graveyard. It destroyed itself above a pre-designated area so as not to cause damage on the ground. And here is another sequence of two over Askelon, but both of them – this is not a rapid fire – one on one.

(Video played).
And you can see the siren in the background. This is a real siren. That’s it, two of them gone.

And this is one I showed last year, but it’s good so I’m showing it again. This was not a rapid fire. It was a salvo – a synchronized salvo of four Grad rockets fired on Ashelon. They were trying to break through the system, obviously. And the way to break through is to saturate it with simultaneous firing, not from multiple launcher but putting them together and firing at the same moment.

So four of them came. One went to – was discriminated as an unimportant target, and three were destroyed. All of them were destroyed. So some Russian speaking citizen took them from Ashelon on the ground in daytime.

(Plays video).

Notice the birds are very agitated. The dogs in the background are barking. And the people are talking excitedly. It’s very (fast ?), but at the end of each interception there is an explosion, obviously on this tape.

Now this is another interesting – some guy in Ashedod (ph) put a stationary camera on his balcony and just took a sky picture. And another salvo came in, a synchronized salvo. Here is the first. Here is the second. And you can hear the siren in the background.

When I showed this in Switzerland a couple of folks took me aside and said what you showed was a simulation, no?

(Laughter).

No, I said this is a real town. They couldn’t believe it. People (firing ?) at real towns and trying to kill people? It’s inconceivable.

This is the greatest one of them all. This is from August 20 of last year in Beersheba. There’s a lot of footage from this event. A large salvo came in, a synchronized salvo. It’s not (important ?) how big it was, but the numbers range in seven to nine – (inaudible).

Most of it was unimportant, was not engaged. Unfortunately, one leaked through. However, this action is taken by some people who live in the east outside of the affected zone. And the video is telling. You can hear Russian in the background.

(Video played).

Here is the first one going up. You can hear the rockets very well. The fire on them makes a tremendous noise. The sky is now full of Iron Dome. It’s a big salvo.

This is hair raising. All those rockets are going to come down, and one even came down. And look at that. Now look at this very large interception.

Wow. People can’t believe it. And here is the fifth one. This is the meaning of defending the people, in the (strongest ?) sense. And I feel very satisfied and grateful to the guys who did it.
I want just to summarize the main point of my briefing this year. The Middle East upheaval has generated collateral proliferation, which is still going on and may become even more dangerous. And where it’s going to go, I don’t know.

But pay attention to the eastern Mediterranean. That’s the next zone of a flare-up because of (fuel ?) problems and because of our resources. And short-range missile defense, people, is working. If anybody needed the proof that you can hit a bullet with a bullet, boy we do it now.

Thank you.

(Applause).

I’ll take questions now if there are any. Yes, sir.

MR. DAVE HOLGER (ph): Dave Holger with Aviation Week. The SA-24s, from Libya, what have you heard about where they are now?

MR. RUBIN: I don’t know.

MR. HOLGER: I heard –

MR. RUBIN: I read in your paper they are in Somalia.

MR. HOLGER: I’ve heard Hamas and Hezbollah.

MR. RUBIN: Yeah, possible, yeah. Well everybody has either understood everything or understood nothing.

(Laughter).

Yes, Peter.

MR. HUESSY: Uzi, would you explain what tactical and strategic objectives the people with these offensive rockets seek to achieve, and how missile defense – apart from the interception – how from a point of view of political leverage, diplomatic leverage, both blackmail and terrorism, how useful defense is? Let’s put it as, if you’re only choice is to retaliate and go to war, missile defense stops the rush to war. It buys you time. I want you to explain a little bit of how not only in Israeli thinking but in NATO and U.S.-Israeli cooperation, how this affects the calculation of how you deal with crises and how you deal with potential conflict?

MR. RUBIN: It’s a very good question and rates a discussion by itself. I just published a paper in Hebrew which is being translated to English. And Iron Dome versus the Grads is kind of a laboratory that traces out all the advantages and disadvantages of missile defense in action. Of course, this is not in the nuclear arena. That’s completely different than the conventional arena.
What we saw on the upside – let’s say first of all the downside. The fact that we had Iron Dome working created a lot of frustration – and I recorded some of the Palestinian frustration as expressed by their analysts. But it didn’t discourage them from continued firing.

On the contrary, they tried to break through the (battle lines ?) and they tried to break through. And I don’t think the missile defense can expect an attack to slacken because the defense is working. But it slackens anyway because the lack of results is frustrating to the other side.

That’s on one side. On the other side, the fact that you don’t have – and this we saw very clearly that if you have a missile defense that’s working, it’s very encouraging to the population. I think it’s very important because I can’t understate -- its importance it’s so important.

People should know that the government defends them. And if they feel abandoned, there is political consequences, not just to the office of the prime minister, it’s political consequences to -- (inaudible) -- war. And all of a sudden this country that says that it can defend itself successfully, something that before for years, for 10 years, couldn’t defend against – people stood up and felt proud. And that was important because they had the perseverance to go ahead and continue.

At the same time, the fact that we had no losses and no damage to speak of, helped very much to calm things down. It discouraged one side and encouraged the other side not to go and escalate. We could take a choice between escalation and de-escalation. And it was more convenient for us to de-escalate in these instances.

We could escalate too, but in previous events we didn’t have a choice. We had to escalate or give up. This time we didn’t have to give up, we could de-escalate at will.

And that tremendous freedom, leverage that you get from having effective missile defense of your population, regardless of the fact it is not 100 percent perfect, and regardless of the fact that you cannot go shopping in the mall even when you have missile defense in action. It’s dangerous. Even the debris of Iron Dome itself is dangerous to the people on the ground. So you cannot go on with daily life.

You have to stop – (Inaudible). But the fact that you don’t have casualties is encouraging you and allowing you to have political leverage and is discouraging the other side, no doubt about it. So I think that was the one year laboratory that showed them. I hope to have this article in English in the next two or three weeks.

Yes, sir?

MR. HOLGER: Sorry, I wanted to take another shot, here. The last time I heard you speak you were talking about there are some indications that perhaps the Syrian government was moving some of its ballistic missiles and other weapons into the Bekaa Valley for storage in Lebanon. Have you heard any more about that?
MR. RUBIN: No, but I think— I turn your attention to this really surprising video clip that I showed. It reached my computer only yesterday morning. I just flew in, went to my relatives in New York, went to my computer, and there I found it. I was flabbergasted by that.

For the Syrians to move in the open, rockets in such a situation, a whole battalion of rockets obviously with all their logistics including anti-aircraft weapons that I didn’t show on that [clip], one of the reasons for that could be they are taking them out to Lebanon, perhaps. I don’t know. It’s hard to say which direction they are driving there. Now this is one of the possibilities.

MR. HOLGER: Do you know where the videos were taken?

MR. RUBIN: No.

MR. CHARLES PERKINS (ph): Charles Perkins with— (inaudible). Just following on Peter’s comment, in a broader context for Israel, the idea—I believe it was first circulated in January or February—said that the Israelis from Grads all the way up to Scuds and Sajils face 200,000 rockets and missiles. When you do the accounting—first of all, this is an extraordinary number. I was wondering if this tracks with your breakdown of what the threat looks like?

Also, specifically, Syria is in play now. You take out the kind of well known number of 50,000 to 60,000 for Hezbollah, a few thousand, 10,000 maybe for Hamas, and a few hundred that the Iranians can use to reach Israeli territory, that leaves about 120,000 to 130,000 in Syria, which is an extraordinary number in terms of planning and the various generations of Iron Dome and David’s Sling, the follow-on, is this the kind of threat that the Israelis are planning for, given that the Syrians now are a big question mark?

MR. RUBIN: Well, it’s a good question. The question in different numbers or different context played very strongly in the arguments for and against Arrow in its time. The question is also always, if they have so many missiles, what use is it to make missile defense and go into this arms race against them that will break you?

The answer is that this is not the referenced threat. The referenced threat is not the total number of warheads that they have on missiles. The referenced number is how many missiles they can fire in a given time, and how long the war is going to go on.

Now it took the Iraqis 40 days to fire—no, more than that, almost two months to fire 80 rockets during the Gulf War. And it took the Hezbollah 33 days to fire 4,200 rockets in 2006. Well, they had 14,000 rockets. They still remained with 10,000 rockets unused.

And they have to (prepare ?) what’s rationale. What’s the number they can fire at you during a reasonable length war. Let’s say if the war is long enough for them to be able to fire 120,000 rockets, then Israel’s problem is not the rockets. So you can— (inaudible).

Why they have so many in their arsenal is another thing. First it gives them psychological confidence. And second, it assures that they don’t run out of ammunition. They always thought that—
(inaudible) -- they were quite upset during one of the escalations that we had before the second Lebanon war, we had in 1996. If you remember Grapes of Wrath in 1992 we had – I don’t remember the name of the operation – but they fired 700 rockets at that time at Galilee. The rockets were still short-range. They couldn’t reach even Haifa. But they ran out of rockets at that time. This seared their memory. They don’t want to go into this situation again. That’s probably why they buy so many of them. But they know what everyone knows. This is logic that I site. They are not stupid. They know it too. They can’t use so many rockets.

Remember, by the way, that officially our chief of research in military intelligence, General Bourne (ph), just two weeks ago made an official statement to the Knesset Committee for Foreign Affairs and Military Affairs that the Iranians now have 450 (Arak ?) missiles that could hit Israel from Iran. And that’s an official number.

MR. BAKER SPRING: I’m Baker Spring with the Heritage Foundation. I commend you for not ignoring the cruise missile threat in your assessment. As it relates to Iron Dome or David’s Sling, what do you assess the ability for countering cruise missile threats?

MR. RUBIN: Well there is a growing cruise missile threat. The Iranians are working, to the best of our knowledge, on a real strategic cruise missile copied from the Russian KH-55 (ph), which they stole from (Dukarin ?). And we are waiting for this to surface.

Now, there are only rumors on blogs. The range should be about 2,500 kilometers, 2,250 kilometers. The Iranians, by the way, I predict that when they unveil it they’ll say 2,000 kilometers, because for them it’s a magic number. They never admit to anything more than that.

So, 2,000 kilometers, probably more than that. We are preparing for that and I think officially David’s Sling -- one of the objectives of David’s Sling -- one of the (stated ?) objectives is to be able to destroy cruise missiles.

That’s it. Okay.

(Applause).

MR. HUESSY: We will see you on June 20th, is our next breakfast. And you can go to the AFA website and to the right you will see Peter Huessy’s breakfast series. And if you go on the breakfast series within the next couple of days will be my first blog, which will have a missile defense component every day. And that’s not yet up, but that’s on that page, plus the list of all the breakfasts plus the registration link.

So Uzi, thank you for that extraordinary presentation, as usual. Would you all give a warm thank you to Uzi Rubin?

(Applause).