

Center for Strategic and International Studies

TRANSCRIPT

Event

“Missile Defense at 40”

SDI: Historical and Policy Reflections

DATE

Friday, March 24, 2023 at 10:05 a.m. ET

FEATURING

Roger Zakheim

Director, Ronald Reagan Institute

Ken Adelman

Former Director, U.S. Arms Control and Disarmament Agency

Aaron Bateman

Assistant Professor of History and International Affairs, George Washington University

Peppi DeBiaso

Former Director, Office of Missile Defense Policy, U.S. Department of Defense

Kiron Skinner

Former Director of Policy Planning, U.S. State Department; Taube Professor of International Relations and Politics, Pepperdine School of Public Policy

Anthony Eames

Director of Scholarly Initiatives, Reagan Foundation

Transcript By

Superior Transcriptions LLC

www.superiortranscriptions.com

Roger Zakheim: (Off mic) – Zakheim. I'm the director of the Ronald Reagan Institute. Now, the Reagan Institute is the Washington, D.C. office of the Ronald Reagan Presidential Foundation and Institute. And here in D.C. we promote President Reagan's ideals, vision, and leadership example through substantive, issue-driven forums, like the one we have today.

And we're grateful and honored to cohost this event and partner with the Center for Strategic and International Studies, where we're going to have an opportunity now to reflect on the 40th anniversary of the Strategic Defense Initiative, SDI, where President Reagan said, quote, "Let me share with you a vision of the future which offers hope." This, of course, was in the speech telling the country and the world about SDI. He went on to say, quote, "it is that we embark on a program to counter the awesome Soviet missile threat with measures that are defensive. Let us turn to the very strengths and technology that spawned our great industrial base and that have given us the quality of life we enjoy today," end quote.

Reagan's words in 1983 inspired, here at the Reagan Institute, our National Security Innovation Base Report Card that we released last week. It is with that vision that we sought to develop a report card that measures the health, effectiveness, and resilience of our national security innovation base, and provides, in that report card, recommendations to improve technologies, industrial base, that created programs like SDI, among countless others, unleashing that entrepreneurial spirit.

And I recall shortly after I began working at the Reagan Institute a conversation I had with Bud McFarlane, Reagan's deputy national security adviser at the time when he gave the speech, and ultimately, of course, became Reagan's national security adviser. But explained to me that Reagan didn't view SDI as just another defense program. He said he saw SDI as an opportunity to unleash the American entrepreneurial spirit. That was America's comparative advantage over the Soviet Union. And SDI ultimately proved pivotal in ending the Cold War, saddling the Soviet Union with further defense expenditures it could ill-afford.

Now, to discuss all this, and other themes of that speech from 1983 and the program that followed, I'd like to introduce today's panelists.

First, Dr. Ken Adelman, a member of the board of RIWI Corp. He served as the director of U.S. Arms Control and Disarmament Agency during the Reagan administration. And is the author of "Reagan at Reykjavik: Forty-eight Hours that Ended the Cold War." And a great friend of the Reagan Institute.

Dr. Aaron Bateman is an assistant professor of history and international affairs at George Washington University. He's a faculty member of the Space

Policy Institute within the Elliott School of International Affairs. And his first book places SDI in the context of America's militarized approach to space beginning in the 1970s.

Also with us is Dr. Peppi DeBiaso, a senior associate with the Missile Defense Project here at the Center for Strategic and International Studies. He previously served director of the Office of Missile Defense Policy in the DOD from 2000 to 2021.

And I believe joining us virtually is Dr. Kiron Skinner, former director of policy planning at the State Department 2018-2019. There's Kiron. She is the Taube professor of international relations and politics at the Pepperdine School of Public Policy, and also the coauthor of "Reagan in His Own Hand," and "Reagan a Life in Letters," a remarkable piece of scholarship that really gives insight into thinking of Reagan and shows his own hand in so many of his policy initiatives, including what we'll discuss today.

Last, this panel is moderated by the Reagan Institute's own Dr. Anthony Eames. He's our director of scholarly initiatives. Please join me in welcoming our panel. (Applause.)

Anthony Eames: Well, thank you all for being here today, and thank you to CSIS for co-hosting and, well, indeed, hosting this event in their space. I think the best way to go about getting some of the perspectives out in the open here with this wealth of institutional historical knowledge on stage and joining us virtually is to go around, give you a chance to open with some remarks, a few minutes each.

So, Ken, if you would kick us off.

Ken Adelman: Great. Thank you, Anthony. Thank you, Roger and CSIS.

Let me tell you about the two most exciting moments I had in government. And I was in government for probably 12 years all together. The first happened around a dining room table in Geneva in mid-November 1985. Ronald Reagan had met with Mikhail Gorbachev earlier that morning for the first time. It was the first summit in seven years. It was the first summit for Ronald Reagan. It was the first summit for Mikhail Gorbachev. And Reagan started out. And we were standing in the Aga Khan chateau waiting that morning. And we had planned this summit for a good six months in advance. It was going to be in a neutral country, Switzerland. In a neutral city, Geneva. In a neutral place, not even the Soviet or American consulate, but Aga Khan's chateau.

So we were talking to Reagan. He was talking, as I remember, about Queen Elizabeth and her horses, or something like that. And the Secret Service came up to him and said that Mikhail Gorbachev's big, black ZIL limo was coming

around the corner. Reagan bounced out, without a coat. Out of the big limousine came Mikhail Gorbachev with a hat, wool jacket. He looked like he was in the Arctic. And came out. Ronald Reagan, who was a generation older than Mikhail Gorbachev, greeted him. They said unintelligible things to each other, because either of them spoke a word of the other's language. And then Reagan kind of pointed to the chateau like he was welcoming in a guest in his quarters. And Gorbachev looked at him like, oh, that's where we're supposed to go. Thank you. So nice to have me.

And the most unbelievable part is going up the stone steps, Ronald Reagan, who then is in his mid-70s, kind of puts his arm under Mikhail Gorbachev, who was then 54, to kind of help him up the stairs in case he needed it. The head of the press office of the Soviets later told me that we knew we lost the summit in the first five minutes. Those visuals were four hours before this first exciting moment in my government life, where we were around the dining room table. I was honored to be invited to the lunch after the morning that Reagan had virtually been alone with translators, with Mikhail Gorbachev.

Ronald Reagan came in from that meeting. He went to the men's room in the chateau for, I thought, was an awfully long period of time. He comes out of the men's room. (Laughs.) We're sitting at the table. We stood when Ronald Reagan was there. He comes out of the men's room and he kind of smiles at us all. And we noticed that his right sleeve was hanging down, his left sleeve was still – his arm was in the sleeve. And he looks at all of us and he says: Wow, it was here – my arm was here before I met with Gorbachev. Where is it now? (Laughs.) And then burst out laughing, and had the greatest time in the world, and sat down.

And the great moment came when after we sat down someone – I think it was me, but it could have been someone else – said, well, Mr. President, what do you think of Gorbachev? And Ronald Reagan looked at us and he said: Well, he's a new type of Soviet leader. And I thought to myself, A, I didn't exactly agree with that at the time. But, B, Reagan's never met any type of Soviet leader. So how does he know there is a new type of Soviet leader? It turned out that all of us around the room, who were far more knowledgeable than Ronald Reagan, far more steeped in this whole subject, were absolutely wrong and he was absolutely right. It was a blessing. First of all, it was a blessing that Ronald Reagan was president right then. That was the real blessing. And secondly, it was a blessing that Mikhail Gorbachev came in after the geriatric succession before that.

The second – by that time – by the time we had this lunch, Ronald Reagan had established pretty much the unique part of his foreign policy. And those were five elements that were really, I think, very unique to Reagan. One is a massive military buildup, far beyond anything that had been envisioned

before. Number two was real reductions in nuclear weapons. Not limitations, but reductions. Before that it was SALT, which was the Strategic Arms Limitation Treaty. So if the Soviets, for example, had 200 ICBM – 200 SS-18s or SS-19s, and they were talking about going to 400, if we constrain them 300 that was a limitation. And Ronald Reagan says, no. If they have 200 let's have them bring that down to 100. So SALT was then redefined by Reagan, one of his first steps, which was the START, Strategic Arms Reduction Talks. So the second thing was real reductions in nuclear weapons.

The third was a – and I think it was awfully important – the Reagan doctrine, to try to roll back communist countries. Not John Foster Dulles-like in Central Europe, but in the periphery. In Afghanistan, and Angola, and Central America. And to turn history on its head because, since Mao the wars of national liberation had been communists fighting pro-Western governments. This was pro-western insurgents fighting communist governments, the Reagan doctrine. Fourth, and I think was awfully important, was delegitimization of the Soviet rulership.

And this started the very first presidential press conference Ronald Reagan gave in the White House. When he was asked about détente he said: The Soviets will cheat, lie, and steal, do everything to advance worldwide communism. And, you know, that was startling. That was absolutely infuriating around Washington, D.C. That was OK for a candidate to say, among the – you know, if you're out on a campaign trail. But for a president of the United States, it was unheard of to say that. In 1983 Reagan gave a speech to the Parliament in Britain, where he said communism is going to be on the ash heap of history. And then later in '83, of course, the evil empire speech, the focus of evil in the modern world.

I was testifying the next day before the House Armed Services Committee. Les Aspin was chairman. He asked me about this, and it was very upsetting. And I said, well, it's called – the president called the Soviet Union the evil empire. Would you think a benign commonwealth would be more characteristic? Would that fit your vision? And Les says, no, I'm not saying that. I said, all right, well, it's nice to call things what they are, to tell you the truth. So fourth was a delegitimization. And during the two days at Reykjavik in 1986, Gorbachev kept bringing up the delegitimization campaign of Reagan. And he didn't like it one bit. It really got under their skin.

The last thing is SDI, of course. And Kiron Skinner can tell you the origin because Marty Anderson was with Reagan when Reagan conceived this idea. But SDI was a bombshell on U.S.-Soviet relations. I didn't realize how much it was until the Reykjavik summit in October 11th and 12th 1986. And that was the second-most exciting moment of my life in government. And that was the morning of October 11th, 1986, when Reagan, and Gorbachev. and Shultz, and Shevardnadze had met in a very little conference room in the middle of

nowhere Reykjavik, that was very ill-equipped to handle the conference because there were 3,217 accredited journalists there in a capital that was 250,000, in a country that was 400,000. And they didn't have the facilities for this massive influx into the country.

Anyway, after that morning, where we met – they met, in that little room, we were told to go to the bubble. Now, the bubble is the room within a room, absolutely secure. They had bubbles around – in U.S. embassies around the world. We had one in Geneva that 25 of us could sit around and be absolutely secure. In Reykjavik, because nothing classified ever happened and nothing really ever happened, it was the smallest bubble ever made. Four folding chairs on one side, four folding chairs on the other. A big latch folding it up. So we were shoulder to shoulder and knee to knee in this little place.

And all of a sudden, the latch opens, the air shoots out, and a big Secret Service guys says: The president of the United States. And in walks – standing at the entrance is Ronald Reagan, and we're all standing up in the bubble. And I think to myself, OK, now there's nine of us in this eight-seater. I don't know what's going to happen but, you know, Reagan's coming in. He's here to stay. The chief of staff of the White House is here to stay. The secretary of state is going to be here to stay. And while I was not exactly chopped liver, I was not at the head of that food chain either. And so I thought if I am to stay, and I am to stay, I'm going to hit the ground. I said, right here, Mr. President. He took my seat. And it was latched up. And for the next half-hour or so I kind of leaned gently against the presidential knees.

And there, in that bubble, in that magical time, it was clear that Gorbachev had talked to Reagan about real reductions. And why had he done that? Because of SDI. SDI scared the daylights out of him. American technology, American – he was questioning the whole strategic balance, the whole strategic theories that had been at that time. And the whole summit turned, and Reykjavik turned on Gorbachev trying to get Reagan to kill SDI by confining it to the laboratories. The summit broke up. It was thought to be a terrible failure. I thought it was a great success. And I said so on national TV with Peter Jennings that very afternoon. And I thought that the Soviets would come back to the talks on the basis of those real reductions, which they did months later.

The last point I would make on SDI is – besides the wonderful defense that we heard about in that very good panel the first time this morning, and we're going to hear about more from the Admiral and members of the defense industries – what SDI did beyond that I think was help end the Cold War. And how is that? Because when Gorbachev made the offer to Ronald Reagan at Reykjavik, he thought: Here's an offer that he cannot refuse. He did not know that Reagan could refuse the offer. And the offer was basically: You give up SDI, which is a – you know, not even in the planning stages at that

point. It's kind of a desire, plan, but not a program in any real sense. And we'll give you deep reductions of nuclear weapons, strategic, by half, and the Euro missiles, INF, certainly by scrapping all of them in Europe. And Gorbachev thought Ronald Reagan was going to do it.

And Ronald Reagan just said no. And what this meant was after the Reykjavik summit, Gorbachev, who already had these reforms underway, vastly accelerated the reforms. And when he vastly accelerated the reforms at the end of 1986 and the beginning of '87, everything fell apart in the Soviet Union. He could not hold it together. And Marshall Akhromeyev, who was the chief of staff of the whole Soviet armed forces, the most decorated man in Soviet history, a five-star marshal, later said – and he had negotiated at the all-night session with us at the Höfði house from 8:00 at night till 6:20 the next morning, on that Saturday night. Akhromeyev later said, you know, you guys didn't destroy the Soviet Union. We did with that accelerated reforms.

So I think SDI, besides the wonderful program – the defense program that's very needed today that we'll hear about from these experts – I think it really helped break up the Soviet Union. So those are my two magical moments. There were lots, many. But I was so honored and really so – it was such a gift to be with Ronald Reagan during the seven years to deal with these issues. And thank you for the occasion for walking down memory lane, strolling down memory lane, and thinking about all these great moments.

Dr. Eames: Well, it's certainly a great history to hear, a lived experience.

Mr. Adelman: You want to hear some more? (Laughter.)

Dr. Eames: Well, let's move through the other panelists. That's a tough act to follow, Ken. But, Aaron, I'm going to put you on the spot to try to follow it. Aaron, Peppi, and then we'll hear from Kiron. And we'll get into some Q&A after that.

Aaron Bateman: Thanks, Anthony.

So I'm going to briefly talk about SDI's impact on the transatlantic alliance. I think we sometimes forget that SDI was not just a contentious issue between the superpowers, but it also had an enormous effect on the cohesion of the Western alliance as a whole in this period. And I'm going to compare and contrast a little bit how there's some similarities in the view of allies towards American missile defense today, but also some significant differences.

So immediately after Reagan made his speech in March 1983, what would become SDI became a source of intense controversy among U.S. allies in Europe, in large part because they weren't consulted ahead of time. It was a real shock, especially to the British. And we have to remember that Britain

and France, as the two Western European nuclear states, were really concerned about any missile defense buildup for the credibility of their relatively small nuclear forces. So in one sense there was a fairly tepid response from the British. From the French there was a vocal opposition to the idea of any buildup in strategic defenses.

The other key concern was the ABM Treaty. So the Western European allies were really concerned that any buildup in American missile defense would erode the ABM Treaty, lead to a massive buildup in Soviet missile defense and, again, undermine the credibility, especially of the British and French deterrence. Another aspect of the European view on SDI was that it would be a catalyst for widening the technology gap between the United States and Europe. Not just in advanced military technologies, but across the board. So we have to remember, SDI involved research into optics, advanced software, advanced computing, lasers. All of these had significant commercial and economic applications as well. So there was really significant concern that Western Europe would be left behind in these high technology arenas.

So Reagan is getting concerned, especially as the arms control negotiations are going to be reignited in 1985, that there isn't alliance solidarity behind SDI. So what the administration decides to do is to reach out to the allies, key allies not only in Europe but also Asia-Pacific as well as Israel, and offer the opportunity to become involved in SDI research and development. The idea being that if we give our allies the prospect of getting access to advanced American technologies, that will reduce their hostility towards the program. So in the second half of the 1980s, Britain, West German, Israel, Italy, Japan all become involved in SDI R&D. And companies from a bunch of other countries in Europe would also become involved.

So to the chagrin of the Reagan administration, this does not really alleviate the hostility of the allies towards SDI. And there's a really important distinction that emerges. Allies are supportive of research into strategy defense technologies. They see this as an important hedge against a Soviet breakout in missile defense. But they're really concerned about any deployment of strategic defenses, especially space-based interceptors, because of the implications for the ABM Treaty. There's one notable exception. And that's Prime Minister Margaret Thatcher. So by the end of the 1980s, she comes to believe that you can harmonize strategic defense and nuclear deterrence. And she's the lone European supporter of deploying Brilliant Pebbles, which is one of the concepts that emerges out of SDI.

When George H.W. Bush becomes president, and Margaret Thatcher is no longer prime minister, John Major has succeeded her, the European allies get together and they make it very clear to President Bush that they are vehemently opposed to any deployment of strategic defenses. One French diplomat hyperbolically warned that deployment of Brilliant Pebbles would

call into question the very existence of the transatlantic alliance. And this anxiety about deployment of strategic defenses really remains in place until President Bill Clinton cuts space-based interceptors from the missile defense research agenda.

When we fast forward to the 21st century, what we find is significant continuity when it comes to European views on national missile defense. That it's seen as really destabilizing. When the U.S. decided to pull out of the ABM Treaty under George W. Bush there's really significant concern about that as well. But a new caveat that emerges, or a new perspective that emerges, is an embrace of theater missile defense. So the Europeans really embrace this idea that theater missile defense have significant benefits.

In Asia-Pacific we also see embrace of theater missile defense, not only to guard against emerging ballistic missile threats, but also that the infrastructure of these missile defense systems is seen as a symbol of American security commitments in both Europe and the Asia-Pacific regions. So on the one hand, we still see this really underlying anxiety with strategic defense, the national missile defense architecture, but increasingly greater support for theater missile defense assets.

Dr. Eames: It's a good note to jump over to Peppi.

Peppi, you've got a lot of experience in the Missile Defense Agency. Maybe you can give us a little rundown of some of the internal dynamics.

Peppi DeBiaso: OK. Appreciate that, Anthony. So my writ today is to sort of go through about 30 years of ebb and flow in American missile defense policy in about five or six minutes. I've spent most of my career involved in the various missile defense reviews, really going back to sort of Bush 41. But a couple of quick observations I'd like to run through.

At least from my perspective, perhaps the two most important things coming out of President Reagan's SDI speech was, one, he reopened the debate about whether the United States should defend itself against ballistic missiles or choose to remain vulnerable, right? Not just the homeland, but American military forces deployed abroad, right? And so that was a significant kind of intellectual transformation, even though it would be many, many decades before the United States would withdraw from the treaty and deploy missile defenses. President Reagan's speech sort of reopened this debate that had really been shut down pretty tight by the AMB Treaty.

The second significant aspect from my perspective in the president's SDI speech was he really transformed the way the United States thought about missile defense capabilities, technologies, and systems. Heretofore, you know, missile defense options were confined to a single kind of technology,

right? Nuclear warheads on interceptors, right? That was part of the U.S. safeguard system, which we deployed for a short period of time, and then disbanded in '75. And it's the basis of the Russian system even today, right? Sixty-eight nuclear-tipped ABM interceptors around Moscow. So the transformation in the way we think about technology was phenomenal coming out of the president's speech, because much of that technology, particularly hit to kill, underlies the entire American missile defense today, right, some 40 years after the fact.

Just quickly, as we look kind of at the shifts in American missile defense policy and thinking, right, they were impacted really by, you know, pretty significant kind of geopolitical and threat developments across the landscape. President Bush – Bush 41 – came into office in a really transformational time in international politics, right, the collapse of the Soviet Union, the collapse of the Berlin Wall. And Bush 41 carried off a major review of SDI, to look at it, and to examine it, and adapt it, right, to bring changes in the international security environment.

And there would be two events that would have a major impact on Bush 41's thinking about how to adapt strategic defenses, right, to the post-Cold War environment. The first was the Gulf War in '91. That was a transformative event. I had been in the Department of Defense about a year, and I knew that evening in the Pentagon when Saddam Hussein started to fire ballistic missiles, and the United States quickly sort of rushed out, you know, modest improvements in the Patriot air defense systems to give them a little bit of missile defense capability, right, that this was going to be a pretty significant shift in American thinking. And, quite frankly, it was, right?

We saw the first sort of ballistic missile defense, ballistic missile conflict. And we saw ballistic missiles used in two ways. We saw them used in a sort of strategically coercive way – Saddam Hussein's targeting of a variety of cities in Israel to try to bring the Israelis into the conflict, to destroy the Western coalition. And, secondly, we saw them used as pretty effective military instruments, right? The largest number of American casualties occurred as a result, in that conflict, of Iraqi ballistic missile attacks against the American barrack in – I believe, in Dhahran. So that was the first significant event that Bush 41 started to influence him there.

The second was the coup against Gorbachev in August of 1991. Again, in the Pentagon that evening, I kid you now, right, the American view was: We had no idea where 15,000, right, who controlled 15,000 Soviet strategic nuclear weapons, right? We knew Gorbachev was under arrest. We didn't know where those nuclear weapons – right, where control of those nuclear weapons resided. I mean, it was absolute and utter chaos, right? You know, a Soviet general – I know if it was Akhromeyev, I believe – shortly after the coup committed suicide. I mean, this was a time of great uncertainty.

And it had to do – that event, it also had an important impact because it was related to the way the United States would start to think about the necessity of missile defenses in scenarios where, right, your traditional nuclear deterrence didn't play a role, right? And this began to inform American thinking about concerns related to accidental and the unauthorized launch of nuclear weapons. So those two events were actually – you know, significantly influenced the shift in American missile defense policy that would be produced in Bush 41's sort of GPALS, right? Global Protection Against Limited Strikes, right? This was the first American significant post-SDI shift. And it was a broad set of architectural plans sort of laid out for that. And I won't go into that at this point.

President Clinton comes into office and, of course, has a much different focus when it comes to missile defense. They did sort of their version of a missile defense review. They took a much narrower focus. It was on sort of theater missile defense systems, and sort of kind of downplayed the role of emerging long-range missile threats to the homeland. As Aaron mentioned, the Clinton administration pretty much killed GPALS. You know, all the plans for a much broader, more significant set of missile defense, strategic and at the regional level. Killed sort of the efforts that were underway to try to begin to cooperate with the Russians on missile defenses that had started under the previous Bush administration. And sort of reoriented policy around sort of just kind of the TMD, the regional piece.

But yet again, international events would sort of have this kind of rude sort of impact on American thinking in the role of defense. In August of '98, North Korea conducts a launch of a long-range missile, the Taepodong-1. Caught the entire American intelligence community and the United States government, quite frankly, by surprise. Didn't understand. Didn't know where the North Koreans got sort of three stage – three stage rocket. They launched this three-stage rocket years in advance of any intelligence community predictions about North Korea acquiring a long-range missile.

And it had an impact even on the Clinton administration, which converted the American homeland missile defense program, which was then known as National Missile Defense, or NMD, sort of changed it and started to put it on a more accelerated track, in light of sort of the North Korean long-range space and missile defense development. Clinton administration, of course, leaves office without making any decisions on the deployment of missile defense.

Now, bear in mind, of course, up to this point as we look at the sort of ebb and flow of American missile defense policy and thinking, the United States is still constrained by the ABM Treaty. So it's not actually, you know, building anything, right? It's doing some R&D, some science and technology, it's laying out architectural plans. But as far as, you know, developing and

producing capabilities, it's largely constrained by the ABM Treaty, which was an incredibly effective agreement when it came to stifling, right, missile defenses. That's what it – that's what its objective was.

Now, Bush 43, this is where things get really – sort of really interesting. This is almost 20 years after, right, President Reagan's SDI speech. And President Bush, Bush 43, concludes that, look, the strategic environment has shifted significantly, right? We're no longer adversaries with the Soviet Union or Russia. We're seeing the rise of regional and unpredictable and dangerous regional partners, you know, combined with the rise of WMD and ballistic missile proliferation. And President Bush, you know, really in an incredible demonstration of leadership, decides to withdraw the United States from the ABM Treaty, right, and makes that announcement in December of '01, effective in the mid part of '02.

Now, this took a lot of courage because for decades, right, the enmity built towards missile defense was enormous, right? I mean, it dominated everything when it came to American strategic thinking and the role of missile defense. And of course, the president was warned by everybody at this time: If you withdraw from the ABM Treaty, you know, this will be the end of arms control, there'll be a new nuclear arms race, your allies will abandon you. You know, Putin made these remarks. You know, our allies expressed the same kind of concern. I mean, I was in Moscow a bunch of times on these events, including on – including in 9/11, with Undersecretary Feith.

And so the president was – the United States was sort of forewarned it would be the end of, you know, the international security system as it stood. Well, President Bush of course withdrew from the ABM Treaty. And at that summit, at the time Putin was, I can't recall, either prime minister or president. He went back and forth so many times. Both President Bush – George Bush and Vladimir Putin had a summit. They agreed to a new nuclear arms control treaty in the same timeframe that the United States withdrew from the ABM Treaty without any further limits. So quite frankly, you had the – you had the breaking of this sort of – this notion of an action/reaction cycle, right? That you couldn't have arms control reductions and the development and development and deployment of missile defenses. That was clearly disproven.

And, number two, the Russians agreed to – I believe it was the Moscow Treaty, right? Which, you know, I think put us down to somewhere between 1,500 and 1,700 warheads. All in the context of the United States withdrawing from the ABM Treaty, making a decision to employ missile defenses without any limits. Oh, by the way, you know, American allies, especially in Europe, right, did not sort of abandon the United States. We'd see a couple of other more, you know, interesting shifts. And the Obama

administration would come into office. It would do its review, its ballistic missile defense review.

And perhaps the most significant thing about the BMDR review that the Obama administration conducted in 2009-2010 was that it sort of represented for the first time kind of a measure of consensus, right? Because the Obama administration essentially endorsed sort of the three core pillars of American policy that had been established in the previous administration, right? Homeland missile defense against limited threats in this context, right?

Regional adversaries or rogue states, a term of art used back then. Regional missile defenses for American forces deployed globally, and for our coalition partners. And the third pillar was, you know, a broad-based missile defense cooperation with allies and partners across the globe, over time, to be integrated within kind of the major – the three security architectures of the United States and Europe, and the Middle East, and Northeast Asia.

The Obama administration did some things as well which, again, sort of reflected a downgrading of the importance of the homeland missile defense threat. They took the Bush administration's plan for 44 GBIs, paused it at 30 because they said, well, we don't see, you know, a rising threat to the United States. We're going to focus more on regional defenses, right? We sort of heard this story a couple of different times.

So what happens? The North Koreans in 2012 or '13, right, go out and display a brand-new ICBM, the KN-08, right? Which again, caught us by surprise, including the American intelligence community. Hadn't forecast that. The Obama administration sort of reacts to that development and decides to sort of take the hold off the 30 GBIs, and go back to 44. So, again, international threat development sort of impacting, right, the shifts. Although, which should be self-evident, that we continue to be reactive to these developments, as in contrast to being sort of more proactive.

You know, you get to the Trump and Biden administrations, I think, you know, and their defense reviews sort of evolving and adapting to, you know, changes in the international security environment, changes to significant geopolitical factors. Two things, a couple of things, stand out in the Trump administration. One, halfway through the BMDR, when we were writing it, and it being – these missile defense reviews, for those that aren't familiar, are, you know, interagency products but all of them are led by the Department of Defense, number one. Number two, they were led within the Department of Defense by the Office of the Secretary of Defense. And, number three, they're always led generally by OSD policy, and sometimes we'd have cochair with other organizations, like the joint staff or the

acquisition community. By OSD policy leads these reviews, and has done so for over three decades.

So as we were working our way through the Trump BMDR to the MDR, you know, our assessments of the shifting security environment, including the threat environment, was that, look, this is more than just about ballistic missiles, right? I mean, we're seeing development of hypersonics, advanced cruise missiles, air-launched ballistic missiles. And a significant change was that halfway through that process we adjusted the name of the group and went to the Missile Defense Review to reflect sort of a broader kind of opening of the aperture of the threats. Which would also begin to affect the way the United States would think about the kinds of defenses, right, the United States needed. BMD, not just BMD, but other aspects.

An important decision was made by the president to go from 44 GBIs to 64. And we can talk a little bit about that. But that was a demonstration of how you get real presidential leadership when President Trump called Secretary Mattis and said, you know, go deploy 20 more GBIs. Which is now sort of after time, right, it was the next-generation interceptor. That's the only way those missiles would have been deployed, right? Presidents have to – when it comes to missile defense, presidents have to make decisions because there continues to be so much resistance, right, that I think is – I would call it sort of – it's the ABM Treaty sort of hangover effect, that continues to sort of have this kind of insidious effect on the way we think about defenses.

I think lastly, to get off the stage, the Biden administration's MDR, which was released in October of last year, I think there's probably a lot of continuity more than change. An evolutionary document. I don't think – you know, my impression is nothing sort of significant about it. A couple of new areas of interest related to integrated air and missile defense, right, highlighting some aspects that, you know, now include, right, the importance of building regional defenses against sort of China and Russia, the regional missile defense capabilities, which is, I think, an interesting development.

They introduced some terms and some concepts, like missile defeat, which are still, in my judgement, a little bit immature. We don't quite know what the relationship will be between missile defense and missile defeat. Is missile defeat just sort of a clever way of saying, hey, we've got a whole bunch of new tools we can pursue. We can downgrade sort of the emphasis on missile defense. I think it's an open question as to, you know, what those concepts mean and how they will sort of relate to each other and come together in a more balanced way to create a more sort of integrated set of offensive and defensive capabilities to counter, right, obviously, a growing missile problem.

And so I think there's some interesting issues and some interesting question there. We need to sort of see how they unfold over time. But I mean, this sort of brings us back to the beginning, which is in light of a rapidly changing international landscape today, you know, where do we take missile defense, right? How do we realign it? How do we reshape that path? So I'm going to stop there on that.

Dr. Eames: Certainly a lot of things to think about as we get into the rest of the conference today. Surprise and presidential leadership are two takeaways I took away from your comments right there. (Laughter.)

Kiron, if you would give your remarks, and then we'll get into some Q&A.

Kiron Skinner: Thank you. First, I'd – can you hear me?

Dr. Eames: Yes, we can.

Dr. Skinner: OK. I'd like to begin by first thanking Roger Zakheim and Tom Karako for partnering with two great institutions to talk about the 40th anniversary of missile defense, and look forward. This was a pivotal moment in the Reagan administration, but I think to really understand why he gave that speech on March 23rd, 1983, one has to go back to earlier parts of his life and career when he was, in fact, thinking about the problems of protecting the homeland and populations from a nuclear attack.

I think it's probably as early as 1962, when in the archives there – I found a speech that – a typescript of a speech that I believe Reagan gave where he was thinking aloud about big issues in terms of what we would ultimately call missile defense, about the responsibilities of protecting people. Then in 1968, two years into his time as governor of Sacramento, he gave a speech – or at least wrote a paper – about a governor's responsibility in foreign and national security. I don't think it was ever published, but it was in response to an article in Foreign Affairs. And he began, again, to think about what we would later call missile defense, and his responsibility as a governor to protect the population of California.

In 1979, as my friend Ken Adelman mentioned, Ronald Reagan traveled to NORAD with Martin Anderson, a former colleague of mine at the Hoover Institution, and coauthor, along with his wife Annelise, on five Reagan books. And at NORAD, Reagan asked the question, while looking at the various monitors: You can monitor an incoming missile? And he was told, yes. But can you stop it? And he was told, no. According to Marty's account, both numerous times in conversations with many people and interviews, and in his book "Revolution," that sent off a lightbulb for Reagan.

I think all of these things were important for him, having been governor of the largest state for eight years, having visited national laboratories that were involved in the production of American missile technology influenced him well before the presidency. But I think the pieces really began to come together for Reagan around what would be SDI in the late '70s, when he was thinking about something even bigger than missile defense and nuclear weapons, but how to develop a grand strategy for the United States that rejected the détente – U.S.-Soviet détente forged by Nixon, President Nixon and his Secretary of State Henry Kissinger.

That had become the status quo, this idea that the U.S. and the Soviet Union were co-equals across the board, by the mid-'70s. The Washington establishment, the academic elites, believed in this notion that we had to look at and treat the Soviet Union as a kind of equal and legitimate power in the international system. Reagan did something that was like a heresy for a presidential candidate at that time. He went fully against the bipartisan consensus around the Cold War, the establishment and the academic world and said: No. The Soviet Union is not, as Mr. Adelman said, a legitimate nation in the world, and toward its people.

And he began developing the pillars of what would become his grand strategy. And within that, I think SDI is actually born. He had around four hypotheses, that I also call heresies, and I've mentioned them many times before, that went against this idea of U.S.-Soviet détente. He said, one, the American economy is so strong at bottom that it can engage in an arms race, a technology race, any type of race with the Soviet Union, and recover. He didn't want deficit spending but, according to Mike Deaver, Reagan later said, on reflection, it was worth it.

Second, Reagan hypothesized that the American public, despite the fact that it had suffered the – watched the humiliating defeat in Saigon in April 1975 – was prepared for peacetime rearmament if leaders would explain that rearmament was not an end in and of itself, but a tool for a very different objective. Which was, in his view, to end the Cold War on American terms. It is Dick Allen is famous for having reported that Reagan said to him in the late '70s, when he asked Reagan: What's your view of the Cold War and the Soviet Union? What do you want to see happen? And Reagan said, we win, they lose. That comes from Dick Allen's conversation with Reagan. Again, I think another heresy in this period of a bipartisan consensus about U.S.-Soviet relations.

Third, Reagan was of the view that the Soviet economy was so weak at bottom that it could not sustain a technology race with the United States. That was very different from what the intel community was reporting at that very time. And then finally, the sole source of legitimacy of the Soviet Union in Eastern Europe, in its security belt, was its Red Army. Pull the army out,

the countries would go their own way. All of these things now, on reflection, look to be true, to be easy for anyone to understand. But at that time, it was Reagan who was making those statements.

Within that, I think, SDI was born because it allowed for this idea that a technology race and, even if it looked as if it wouldn't work immediately, a missile defense shield, somewhat dramatic the way it was presented by Reagan in his speech and in other statements that happened in the years that followed. But it was consistent with the thinking that Reagan campaigned on in 1980, that he wrote about and thought about in his radio scripts and other writings during those years.

Now, if we pivot to 1983. That year I think is the most dramatic year in the end of the Cold War story. Not just because in March Reagan gives the twin speeches, the evil empire speech and the missile defense speech. But because everything else that was going on, both behind the scenes and the public realm. In terms of the public, we had seen in the early '80s one of the largest – perhaps the largest – antinuclear grassroots global movement, both sides of the Atlantic. Body chains around nuclear facilities in Europe and the United States. The Catholic bishops issued a letter, a pastoral letter, against nuclear weapons. Church and Laity Concerned, representing Protestants, had lots of nuclear freeze activities. There was a call among the Western societies for a nuclear freeze.

And then there's Ronald Reagan. And there was a belief that he was going to lead the world toward nuclear war. And he gives these speeches in March. And what I remember, being a very young graduate student, hearing this idea that Reagan's speech was an attempt to foil – and SDI more broadly – the nuclear freeze movement. I don't think that's true, but it is interesting that after Reagan put forth SDI, later called Star Wars, the nuclear freeze movement never regained its strength and steam. That many Americans and others in Western societies, when presented with an alternative about how to be safe, found the missile defense idea attractive.

But if we march on after that speech a few months later, something profound happens that I think builds on the strength that Reagan presented in giving the idea of missile defense to the world – a missile defense shield, when everyone else around him said it wasn't really possible. By June, the seven Pentecostals who'd been living in the U.S. basement of the embassy in Moscow were released. And I think that moment happens in part because of what Reagan did in those twin speeches in March of 1983. Yuri Andropov and Reagan agree to quietly let the Pentecostals out and allow them to travel to the West, so that they could practice their religion freely.

Then we march on to the fall of 1983. Again, there are still many who want a nuclear freeze and don't want the U.S. to deploy what is known as the

Intermediate Nuclear Forces or weapons in Europe. That actually happens by the end of the year. All of this is going on around Reagan's – the development of a grand strategy. And it was an early piece, both the human rights side, the missile defense side, the deployment of weapons, the Pershings – you know, it was the Pershing weapons and other weapons in Europe at that time. A very different world by the end of the year.

Reagan helped make this possible when, in fact, not Ken Adelman but some of the other advisors around Reagan, doubted that any of this was actually possible. I think it suggests the power of the presidency, especially when you have a president that has an independent vision about America's role in the world. That was Ronald Reagan, and 1983 was the year. The beginning, I think, of the turn in 1984 happens as a result of these activities and policy decisions that I've mentioned. Thank you.

Dr. Eames: Thank you very much for all those remarks. I think now is a good time to get into a little bit of Q&A. We should have a few minutes left for it. I'm going to be a little selfish as the moderator and ask the first question or two.

You've all laid out in some way, shape, or form the importance of missile defense to arms control. Missile defense to bringing the Soviets to the negotiating table on intermediate-range nuclear weapons, on strategic nuclear weapons. The arms control landscape looks a lot different today, I think we can all agree. INF, New START, both either cancelled or suspended. China's, of course, a consideration. Iran, other actors. So I'll kick it over to actually the whole panel, but maybe Ken you can kick off and the new can get into it from there, what's the place of missile defense in arms control today? Is there a place for it?

Dr. Adelman: I'm not an expert in that. Peppi, and Aaron, and even Kiron – and Kiron's comments were wonderful, so thank you, Kiron for that – I'm not an expert on that right now. I can just tell you that during the time of the Reagan administration, the whole cry was that SDI would ruin arms control. I mean, that was quite clear. Senator Ted Kennedy was leading the charge. I love this foyer right here named for Sam Nunn, who was a good friend of ours and somebody I respect enormously. He was against SDI for a variety of reasons. (Laughs.) He thought it would ruin arms control. It was a common belief then that what we had to do was to continue what the Carter administration had been doing in arms control in order to succeed. And in order to succeed where they had not, from the SALT II on.

And as Kiron pointed out, Ronald Reagan really did listen to his own drummer. He really had ideas that Kiron has done a wonderful job of showing in the – in the whole commentary that he had made from the 1,000-or-so radio broadcasts about views. That he really thought about these issues himself. And he was – you know, just had it in his mind what he

wanted to do. And it was – it was really impressive. We were in this little compact house, the Höfði house, for that weekend at Reykjavik. And Reagan met with Gorbachev for 10 ½ hours. Now, I don't know about you, but I haven't talked to anybody in two days in 10 ½ hours in my life. That's a long time to talk to somebody.

And during that time, especially the Sunday, the October 12th, 1986, when Gorbachev tied these real reductions in nuclear weapons for the first time – 50 percent cut in strategic arms and doing away with the Euro missiles from Europe – which Aaron will tell you was the number-one problem facing NATO when Reagan came to office. So this was no sidebar. This was the central issue of NATO. And Reagan – and Gorbachev and Akhromeyev at 4:00 in the morning on the all-night session, had agreed to the 50 percent cuts, agreed to eliminate the missiles in Europe. That Sunday morning, Gorbachev tied those reductions to Reagan abandoning SDI.

And what's surprising to me is that over that weekend – and we had lots of talks with the president about, you know, the whole situation – Reagan never really asked our advice. Should we take the deal or not? It really was kind of surprising when you look back, because I think it was a deal that any other president in American history would have taken. And the fact is, he didn't ask our advice and where we stood on the issue because he knew where he stood on the issue, and that was all he really cared about. (Laughs.)

And so this – and to get to your question on the effect of SDI and arms control – the conventional thinking in the '80s was that SDI would kill arms control. And it was just wrong. I mean, the reason we had Reykjavik, the reason we had the INF Treaty, the reason we had 50 percent cuts in strategic, was because of SDI, and because of Reagan's buildup of – across the board, and his real desire to stay with deep reductions of the nuclear weapons. It was an amazing – Anthony, you're absolutely right. It's an amazing case study in presidential leadership and just deciding what he wanted to do, and going ahead and doing it.

And Winston Churchill always said that courage is the main virtue of a leader, because without courage none of the other virtues come. And we can see that with – today in Ukraine with Zelensky. That courage is awfully important. And Ronald Reagan had that kind of courage. He did – as someone said – Buckley said, Ronald Reagan is the first president in the modern era not to care about what the editorial page of The New York Times said. And William F. Buckley said that about his buddy Ronald Reagan. Well, the fact is that Ronald Reagan didn't read the editorial page of The New York Times. (Laughs.) And that's why – partly why he didn't care that much about it. But he was very clear in his views. And it was just – looking back at it, it's just a case study in leadership that's quite stunning, let me say.

Dr. Eames: So maybe we can look at that case study. How would you apply that today if you were advising, say, President Biden? Peppi, Aaron, Kiron? Peppi, why don't we go to you first?

Dr. DeBiaso: To pick up on the original part of your question, I think we've gotten sort of missile defense and arms control mostly wrong over the past three or four decades. And without sort of going into a history lesson, we got it wrong during the days of the ABM treaty, right? The two key premises of the ABM Treaty – two key premises. One is that it would sort of codify sort of American and Soviet interests and mutual vulnerability. And two, it would lead to cessation of the offensive – arms race of strategic offensive weapons.

And both were demonstrated false within a matter of months, if not – a matter of years, if not months. The Russians, the Soviets after the ABM Treaty was signed continue to develop, right, their Moscow ABM system. They continued to put emphasis on strategic air defense systems. They continued to place emphasis on homeland – nationwide homeland civil defense. I mean, the Soviets took every conceivable measure to limit damage to the Soviet Union in the event of a major war, and in particular of a nuclear war. So they didn't buy into the vulnerability. They bought into the ABM Treaty because there were specific tactical reasons for doing that, mostly related to sort of suppressing sort of what they were concerned would be sort of a significant American technological advantage.

The second piece was related to, you know, the cessation of the offensive – development of strategic offensive weapons. In fact, the largest expansion in Soviet strategic offensive weapons occurred between the early 1970s and the late 1970s, after the ABM Treaty was signed, right? I mean, we knew within a matter of six or eight years, we could look back and see the ABM Treaty failed miserably, right, to – you know, to reduce or stop, right, the development of Soviet offensive weapons. I mean, even Harold Brown, right, Jimmy Carter's secretary of defense, Democratic administration, famously noted, you know, with regard to, you know, Soviet strategic forces, look, when we build, they build. When we stop, they continue to build, right? Again, it demonstrated that American restraint had no impact.

I think, you know, you fast-forward to today. I mean, we see the same developments, right? American restraint in missile defense – and you can only call it restraint, right? I mean, here we are 2002, Bush withdraws from the ABM Treaty. We began deploying homeland missile defenses in 2004-2005. We have 44 interceptors. The United States today has fewer interceptors – strategic interceptors than Russia has, right? And so American restraint, right, hasn't been rewarded in any way when it comes to missile defense.

So I think the kind of canonical view that is out there about missile defense sort of being a stimulant to offensive forces is, to me, a gross sort of oversimplification of sort of a much more complex problem set, in terms of what drives nations to acquire and develop strategic capabilities, number one. Number two, again, to my earlier comments, I mean, we demonstrated, right, during the Putin-Bush summit communiques in 2002, right, I mean, you can have missile defenses and strategic arms control, if the political conditions are right. And they were right at that time. If the political conditions are not right, right, if the nations are genuinely hostile toward each other, then it really doesn't matter, right? I mean, the arms control won't be – won't be successful.

Dr. Eames: Aaron, your comment?

Dr. Bateman: So I'll just highlight one particular complication that we see in the SDI era, and that I think would likely be an issue today with missile defense and arms control. And that's the space-missile defense nexus. So back in the 1980s, one of the things that the Soviets tried to do was propose anti-satellite weapons, arms control, as a means of restraining the development of missile defense. Why is that? Because if you're using hit-to-kill technologies, if you can use a hit-to-kill missile to shoot down a ballistic missile outside of Earth's atmosphere, you can use that same ballistic missile to shoot down a satellite.

And so the proliferation of advanced missile defense systems is simultaneously the proliferation of ASAT-capable systems. And both Russia and China are very concerned about any kind of potential offensive space capabilities that also have missile defense applications. Ken Adelman probably remembers, I've seen the transcripts from the conversation with him and Reagan and other advisors. Reagan tried to distinguish between what he called offensive space weapons and defensive space weapons. And Ken and several other advisors to Reagan explained that this kind of distinction is really not possible in a practical sense. But it's a real complication in arms control negotiations when you're trying to distinguish between these different categories.

So Russia and China are vehemently opposed to what they call space weapons, but it's really, really difficult to actually define what that means. I mean, you might say, well, it's a weapon in space. But, like I said, if you have a ground-based missile defense capability, you can potentially use that to shoot down a satellite. So the space-missile defense nexus was a real complication in the 1970s with the U.S. and the Soviets. Certainly, in the 1980s, during the nuclear and space talks. And it would likely be a really significant issue if there is going to be the reemergence of arms control negotiations with the U.S. and Russia, and potentially U.S. and China.

Dr. Eames: Kiron, you had a few thoughts on this matter.

Dr. Skinner: Yes. I just wanted to go back to the time of SDI and before, because I think it's important for the audience. And I was having a similar discussion with my students here at Pepperdine University yesterday. There are times when an issue or problem set will ultimately divide the American public. We see that climate change now. And SDI was something like climate change in that period. There were many who believed – you know, on the Reagan right, there were many who believed that missile defense, a defensive shield, was not only possible but important. There were many in the kind of bipartisan elite community and on the political left who believed that we should not pursue this technology, and stay committed to the ABM Treaty.

It was shocking. There's just nothing in anyone's DNA that would lead them to be on either side of this debate. I don't think we're there now, but I think what was underneath that discussion was the fact that Reagan was challenging the core premises of the ABM Treaty and the nuclear deterrence structure that we had. For instance, he rejected the idea of mutual assured destruction. He felt that MAD was mad. And that it ultimately was a policy that used population centers as pawns in the nuclear game. He thought it was morally reprehensible.

That kind of was something that many found shocking in the defense community, because MAD had been, over a couple of decades, you know, kind of a highly developed idea, along with massive retaliation and the important nuclear doctrine and strategic thinking that happened in the late '40s and the early '50s. I don't think we're there now, as our speakers have said, in the missile defense debate. But I think there is a lingering – there is a legacy of a suspicion of what missile defense can do in the larger nuclear set of strategies and policies of a nation. And I think the speakers have said that so far.

Dr. Adelman: Let me just jump in on that?

Dr. Eames: Please.

Dr. Eames: And this is just for my benefit, because for 43 years it's been bugging me – (laughs) – that the groups, the Union of Concerned Scientists, came out immediately after the SDI speech and said: This will never work, OK? It bugged me at the time, and it still bugs me 43 years later. How can a group of scientists say something will never work? No matter how much money you put into research, no matter how long the research takes? I mean, if anybody told me that I could have the capabilities that this has here in 2023, that will never work, you know, I would have believed them at that time.

But this idea that scientists are ganging up on the SDI, as it say it'll never work, was kind of outrageous. It was one of those myths at the time that really caught on. Ted Kennedy, you know, famously – because the Kennedy family had a genius for public affairs, all of his brothers did. And he came out with the Star Wars right away. Then the cry was, this is going to kill arms control, which we talked about. So you had all these absolute truths that were prevalent in the air at that time. That'll never work. That'll kill arms control. That'll so aggravate the tensions with the allies. You know, that turned out really not to be true.

The last point I would make, Aaron is absolutely right that – and he was even kinder to Maggie Thatcher, who adored Ronald Reagan at the time – but she really didn't like SDI, OK? And that was clear from various conversations we had. I was with Reagan and Thatcher when we had an hour and a half on SDI and arms control. And Thatcher brought over her foreign minister and defense minister. And it was clear that she really didn't like it. And I accompanied Ronald Reagan on the walk back from that meeting. And he turns to me, he says: She's not a great listener, is she, Ken? (Laughter.) And I said, well, she's a great talker, though. (Laughs.)

But so Thatcher was, you know, just for a variety of reasons – some of them good, some of them not – against SDI. But in her memoirs, she has the amazing point that Ronald Reagan's SDI decision was the most important decision he made in eight years as president, OK? Something she opposed during six of those years – (laughs) – in office. She came to realize 20 years later that not only was defense important as a program, but more important it is because of the whole effect it had on the end of the Cold War.

So I thought it was an amazing conversation and realization, Aaron, of, you know, in her honesty that she was wrong all those years. And somehow – that was the amazing part about Ronald Reagan. Somehow, he got these things that were big, big issues so right. And like I say, all of us who were well-steeped in this field, we knew so much more than he did, with years of learning all this stuff that he didn't, we were just wrong.

Dr. Eames:

Well, I think you set up kind of an interesting next question. We heard a lot from the first congressional panel about hypersonics, about NGIs. You said the Union of Concerned Scientists doubted that SDI technologies could ever work. Maybe Aaron and Peppi, if you could give us a little sense of the change in the technological landscape over 40 years. I know I've just given you about four minutes to cover 40 years of technological development. Kiron, you can chime in too. But give us a little sense of what are those key moments, key inflection points that have made missile defense a different equation?

Dr. Bateman:

So I'll just talk about a couple of key ones, and then I'm sure Peppi can go into more detail about some of the organizational changes that go along with

that. The 1970s is a real turning point, because the 1970s is when you have hit-to-kill technologies really coming out, and you have more advanced sensors. So prior to this, missile defense was primarily dependent on nuclear-tipped missile defense, which is obviously not going to be very accurate, propagating a lot of radiation into the upper atmosphere, into space.

So hit-to-kill technologies in the 1970s is what is giving some missile defense advocates the idea that this is going to indeed become a greater possibility, and also some interest in directed energy weapons. I think, unfortunately, in the historical narrative on SDI, it's usually associated with lasers in space. That's kind of the popular narrative. If you actually look at the budget for SDI 0, the largest chunk was in command and control and then also in hit-to-kill. So space lasers, that's a really small chunk of the overall slice of the pie.

When we move to the post-Cold War era, what we find is that there's generally bipartisan consensus in favor of having a space layer to track and detect missile threats. And it's really space-based interceptors that are the most politically sensitive issue. And, as we discussed, those are largely killed. But when we look at what's going on today with the Space Development Agency and the Missile Defense Agency, they're actually embracing for the space layer key ideas that were being raised in the late '80s and early '90s, with having proliferated constellations, different orbits that can maintain custody of all kinds of missile threats, from cradle to grave.

So the space layer in many ways, that was envisioned by Jim Abrahamson and his colleagues in the late '80s is, in some ways, actually coming to fruition. But the space-based interceptor is still probably the third rail that a lot of people don't want to touch.

Dr. Eames: OK. Peppi you have one minute, and Kiron, you have one minute, if you'd like. (Laughter.)

Dr. DeBiaso: Aaron, right on. I think he covered almost everything I would have to say on this. I'll take a little bit of a broader point, right? What we've failed to do in the missile defense arena most significantly, from my perspective, is to treat it like any other major weapon system program, and continue to develop – you know, bring – infuse new technology, new capabilities, new platforms, right? We've really sort of almost failed miserably to do that in missile defense.

And when you look at we're now pursuing the sixth generation air fighter – you know, fighter interceptors. We're pursuing the eighth generation of ICBMs. And we're only now sort of struggling to develop sort of the second generation of ICBM. We've got a very competent system in the ground today, but we're presumably developing the next-generation interceptor, which

may be 2028 or 2030. But that will be, you know, three-plus decades, right, that it's taken us to get to what we hope will be a second-generation interceptor, right?

I mean, so in terms of the advanced technology across the board – whether it's hit-to-kill, whether it's interceptors, whether it's space-based sensors, right, we've treated missile defense in this sort of different way. I mean, there's sort of a more complex reason why it's lagged. And, I mean, it's budget. It's politics. It's technology. But technology isn't the driver. I think it's more politics and budget that has sort of led to this kind of lack of treaty missile defense, like any other major strategic program. I mean, we should be – you know, we should be moving towards the third-generation of capabilities at this point, whether they're ground-based, whether it's hit-to-kill, whether it's space-based sensors.

And so – and until the decisions are made, right, in a sense – I don't want to say to bring us back to kind of the SDI era – but to fund the development of new technologies, right? You know, there are plenty of opportunities out there. The F-35, incredible. We discovered when we were doing the MDR review in 2018, incredible sensor platform, right? I mean, the F-35 is picking up ballistic missile tracks in incredible ways.

Well, you now have an incredible airborne sensor that can do boost-phase tracking, married today, possibly, to an Air Force program for-to-air hypersonic weapons, which can probably – there might be some promise there, one kind of narrow example, for no-kidding sort of boost-phase capabilities. But is this being examined? No. It's not. So we're going to have to think differently about this problem from the way we've thought about it for the last 30 years.

Dr. Eames: Well, hopefully our two following panels will think differently for us.

Kiron, you can bring us home.

Dr. Skinner: Just great panel. I agree that the issue of missile defense is not technology, it's politics. Sometimes it's a lack of will and imagination. But I actually think if we go back to the Reagan era, where we started, the same problems persist. Missile defense, I think – and I think maybe Tom Karako knows this better than I do – tends to do well when it's embedded in something like a grand strategy. It needs to be, I think, well-defined in terms of what it's supposed to do, who the potential adversaries are, how and when it will be used.

Reagan was able to overcome the objection, as Ken mentioned, of the Union of Concerned Scientists and others because in the following year, in 1984, he enunciated his grand strategy, the four-part agenda, which actually very few

people know about and is ignored most of the time. But I think without it, there's no missile defense. That strategy included a focus on arms control, a focus on regional competition – what we call the Reagan doctrine – meeting the Soviets on the ground in places like Angola, Afghanistan, and complicating their efforts there, human rights, which I've already talked about, and then other bilateral issues.

That helped take away the idea that missile defense somehow was an attempt to increase the arms race – the nuclear arms race. That may seem a bit odd, but there were many who believed that missile defense, or SDI at the time, would make it more likely, not less likely, that there was a nuclear war. The biggest advocates of missile defense tend to be nuclear abolitionists. And Reagan was one. The problem that we see how in the 21st century is that we just – you know, we've got new actors, like China. China wasn't a factor in nuclear arms control in the 20th century. Now it is for the United States. How do you embed missile defense in a new geopolitical reality? I suggest that the Reagan Institute and CSIS hold another conference on that topic. (Laughter.)

Dr. Eames:

Well, thank you for that charge. And thank you for our panelists. Please join me in giving them a round of applause. (Applause.)

(END)