A Discussion on the Defense Industrial Base with Government Leaders

TRANSCRIPT

Discussion…………………………………………………………………………………………………2

- Ellen Lord, Under Secretary of Defense for Acquisition and Sustainment, U.S. Department of Defense
- Senator Mark Warner, U.S. Senator from Virginia
- Robert Work, Former Deputy Secretary of Defense, U.S. Department of Defense
- Bryan Clark, Senior Fellow & Director, Center for Defense Concepts and Technology, Hudson Institute
- Jeb Nadaner, PhD-JD, Deputy Assistant Secretary of Defense for Industrial Policy, Office of the Secretary of Defense for Acquisition and Sustainment, U.S. Department of Defense

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A video of the event is available: https://www.hudson.org/events/1914-video-event-a-discussion-on-the-defense-industrial-base-with-government-leaders12021

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Bryan Clark:

Welcome to the Hudson Institute. I'm Bryan Clark, a senior fellow at the Hudson Institute and Director of the Hudson Center for Defense Concepts and Technology. Welcome today to a great discussion we're going to have about the future of the Defense Industrial Base. The U.S. manufacturing industry has been very successful over the last 50 years by many measures. Manufacturing output has grown fourfold in terms of dollars over the last 50 years, and also, we've dramatically increased the productivity of our workers.

The success of U.S. manufacturing though, is hidden some and obscured some challenges that have emerged, that are going to be a challenge for the defense industrial base. The reduction in manufacturing jobs as attended upon increased productivity is an issue to be addressed, as well as the shrinkage of the defense industry law at large due to the shrinkage of the overall military, since the end of the cold war.

For example, a shipbuilding industrial base has dramatically been reduced over time, there's been defense consolidation down for more than a dozen defense firms down to less than five primes, and also, we have a microelectronics industry in the United States that has been dramatically reduced in terms of the global share of productivity, and also the impact that it's going to be able to have on driving innovation inside microelectronics. These trends, among others, are being addressed by a new report from the Defense Department that came out this week, looking at the future of defense industrial base.

So to talk about the defense industry and the future of it and how we might be able to address its future health, we have a very distinguished panel with us today. I'm going to start by introducing them. So, to start off with the secretary Ellen Lord is the current Under Secretary of Defense for Acquisition and Sustainment. She's been in that job since 2017. Secretary Lord came to the Under Secretary of Defense job from Textron, where she was the Chief Executive Officer of Textron systems and President, where she worked for 30 years, more than 30 years in various roles at Textron.

She's also Vice Chairman of the National Defense Industrial Association. She is also a member of the Center for a New American Security task force on strategy technology and the global defense industry, and also the Future Foundry initiative, looking to forge new industries for defense. Senator Mark Warner is just now entering his third term as Senator from the Commonwealth of Virginia. Senator Warner was elected initially in 2008, and he serves now on the Senate Finance Banking, Budget and Rules Committees, and is also the vice chairman of the Permanent Select Committee on Intelligence, where he might be going on to be the chairman, I assume, with the democratic majority that's coming into the Senate now.

From 2002 to 2006, Senator Warner was governor of Virginia, and prior to that, he had spent 20 years in the world of Tech Entrepreneurship, including founding the company that eventually became Nextel. Also with us, is Robert Work, former Deputy Secretary of Defense, who is now a distinguished senior fellow for Defense and National Security at the Center for a New American Security, as well as a co-owner or the owner of TeamWork, a company devoted to national security and the future of warfare. Secretary Work, in addition to serving as deputy secretary of defense, has also served as the Chief Executive Officer, the Center for a New American Security, and also he served as Under Secretary of the Navy. And prior to that, he had a distinguished career in the Marine Corps, serving there for 27 years.

And finally, our moderator for today's discussion is going to be Jeb Nadaner, who is the Deputy Assistant Secretary of Defense for Industrial Policy. Dr. Nadaner has been in that job since last year, and previous to that, he had spent two decades in the private and public sector, working in technology and policy areas. Dr. Nadaner, prior to coming into Defense this time, was working at the Lockheed Martin corporation, where he was Vice President for Engineering and Technology, and prior to that, he had led
the U.S. Marine Corps Krulak Center of Innovation, and was Deputy Assistant Secretary of Defense for Partnership Strategy and Stability Operations.

So I'm going to now turn it over to Dr. Nadaner to be the moderator for today's event, and I'm looking forward to the discussion. Thank you everybody for being here.

**Dr. Nadaner:**

Thank you very much, Bryan Clark, thank you to Hudson and thank you to our wonderful panelists. We've issued a huge report on Defense Industrial capabilities, almost every sector possibly imaginable. I want to start with a big question, Under Secretary Lord. What is the condition of the U.S. Defense Industrial base?

**Ellen Lord:**

Thank you Jeb and again, thank you to Hudson and my colleagues here today. I will say overall, the Defense Industrial Base is healthy. However, we do have a number of single point failures as well as critical dependencies on offshore sources of supply. And I look at the Defense Industrial Base as the nexus of national security and economic Security, and as such, they are very, very important to both areas. We as the government, I believe, need to work with industry to make sure that we diversify that industrial base, and also that we much more quickly translate technological capability into features of current platforms and weapons systems, as well as incorporate it in new ones. Thank you.

**Dr. Nadaner:**

Thank you. Secretary Work, what is your assessment of the Defense Industrial Base, and how well are we competing with China?

**Robert Work:**

Well, Jeb, it seems to me that your question conflates the Defense Industrial Base that is required to generate military technical advantage to deter China military, and the general Industrial Base and economy that is capable of competing against China, which is going to be the most serious strategic competitor the United States has ever faced. The United States has never faced a competitor with a GDP greater than 40% of its own since 1886. In World War II, if you combined the GDPs of both Japan and Germany, they broke 40%, but just barely. And I think the Soviet Union, the high watermark for them was 43%. China's already surpassed us in purchasing power parity, and it is projected to pass us in absolute GDP, possibly as early as the mid 20's, and certainly no later than 2040.

So this is going to be a very, very hard strategic competitor, and unlike the Soviet Union, which could compete with us technologically, in niche areas like nukes, space, undersea capabilities, they built very good submarines, for example. They couldn't compete with the United States across the board, in microelectronics and combat systems, in all of the things that make a modern military function. China is a technological peer in every way, so they can compete with us punch for punch at the economic level, GDP, they've got a tremendous technological base, and as you point out in your report, their manufacturing capability is world-class.

So let me just say that, I think that the defense industrial base that creates platforms to deter our competitors and adversaries is top notch. It still creates the best capability in the world. And I think most of our competitors would say, "Look, given a choice between what we're building and what the Americans are building, we'd rather have what the Americans have." But I don't think that we are structured for a longterm competition economically yet with China, the basic industry and industrial base.
And for whatever reason, the United States shies away from industrial policy, but I almost think we have to think about this in terms of the 1947 National Security Act and say, "How are we going to organize it as our industries for a long-term competition with a near peer, or excuse me, peer grade power."

So our current Defense Industrial Base reflects generally our late Cold War and post-Cold War heritage. So if we need nuclear weapons, we'll make those and they'll be great, and that's not what I worry about. I worry about the ability of our economy as, Bryan, can we strengthen our shipbuilding industry? Can we strengthen our semiconductor capacity? Those are the things that I think are most worrisome. So I would give the Defense Industrial Base an A- or B+. Even though it has a lot of problems, which you bring out in your report, but our overall economic position, I think, needs to be addressed, and I'd be interested to hear what Senator Warner says about this.

**Dr. Nadaner:**

Thank you, secretary Work. You've described the competitor like no other, China, and that's an excellent segue to Senator Warner. What are some of the economic policies we should be considering as a country, that may be different than in the past, in order to compete and also to create opportunity for Americans?

**Mark Warner:**

Well, Jeb, let me echo what Secretary Lord has said that thanks to the Hudson, and I want to specifically give a shout out to Secretary Lord, she's been a great advocate for protecting the Defense Industrial Base. Throughout her tenure, this has been an area... I've not agreed with the administration on a number of policies, but in this area she's been first rate, and we are better prepared because of her endure and other great work. I'm going to try to... There's so much about what Work just said that I so agree with, but let me try to step back and frame this slightly differently.

One, COVID has brought about some good and bad. One, I think COVID exposed, in many ways, some of our vulnerabilities in terms of [outsourcing 00:11:06]. We think about this, particularly maybe around the medical or pharmaceutical supply chain, but I think it also exposed potential vulnerabilities in outsourcing in the Defense Industrial Base.

At the same time, I would argue that Congress both, particularly in the first CARES Bill, which I was heavily involved in the negotiations with Secretary Mnuchin, that there was a real recognition that we needed to protect our defense industrial base, so we did special carve outs, like Section 3610, which provided reimbursements for our classified workforce. We gave secretary Lord another flexibility on some resources to protect part of that Defense Industrial Base workforce, and I think there was acknowledgement that this was an asset that we couldn't have further atrophy during COVID.

So both exposure of some of the vulnerabilities, but also a recognition and the importance of protecting number one. Number two, to what Secretary Work said, I am focused to the point of obsession, about the rise of China. And I agree with Secretary Work that China's rises is so unlike our adversaries in World War II, or so unlike the Soviet Union that could, again, compete with us potentially on a military side, but never had the economic heft to compete with us across all economic fronts.

China has that capacity, and my belief is that, and I've seen this play out right now as an old telecom guy in the 5G area, I would argue that America, over the last 50 years, have gotten used to being the leader in every technological advancement. Telecom, internet, wireless technology, satellites, you name it. If it wasn't invented here, we at least still set the standards, the rules, the protocols, and that setting those standards gave us and our industries a longer term advantage against our competitors. So we set the rules of the game.
We’ve gotten fallen a little bit asleep at the switch on that, and this is over the last 20 years, it’s been Democrats Republicans alike, it’s been American industry, not putting as much into basic R&D, and not spending as much on these standard setting conferences. We see this play out from real time now, as the Chinese are setting the worldwide standards on 5G.

My fear is that will play out in AI Quantum, facial recognition, a host of new technology areas, and my fear is that while we maintain the technological advantage in building defense platforms and ships and planes and traditional weaponry, that the underlying technologies that underpin almost all of that weapon development side, we’re seeing China fled the zone in terms of these standard settings, have a form of authoritarianism capitalism, and I want to come back on another question too, industrial policy in a way that we have never had this level of competition before.

And they have a whole series of satellite States under the Belt and Road initiative that oftentimes vote with them on these standards setting, and I think we’re going to need to think about a coalition of the willing in this, not only traditional Defense Industrial Base, but in technology at large, that we’re going to have to really put some thought to.

And then finally, and this maybe falls a little outside of the report, but I think lots of us across the board have been talking about new sets of challenges in terms of what we classically think of the defense world. And I don't want to sound just obsessed as I sit up here on Capitol Hill today, but we've seen just in the last few weeks a couple of things.

We’ve seen the solar works hack, obviously by Russia, and that has a level and depth that is virtually unprecedented, and we still don’t know whether to call this espionage, or if it's not actual denial of a service attack, but where it falls on this continuum, and again, reflects the fact that we as a nation state, have not been fully prepared on the whole issues around cyber. And then we saw the tragedy of the insurrection at the Capitol last week, and the rise of anti-government forces in the United States, and for that matter in many democracies around the world, could end up in the short-term, posing as grave a threat as some of our potential nation state adversaries.

And I sometimes worry that as we think about our traditional defense budget, we always worry about cyber, but it's always a secondhand initiative. I frankly think the images of those thugs walking through the halls of the Capitol are probably a more priceless gift to the Vladimir Putin and the Chinese leadership and the Iranian, North Korean leadership, than almost anything that's happened in the last few years. In addition, it may raise the whole spectrum of when we think about our Defense Industrial Base, do we have to even broaden what the definition of that is? I know that I put out a lot there and I hope we’ll get a chance to come back to some of those subjects in the subsequent questions.

Dr. Nadaner:
We'll follow up on a number of those. Ms. Lord, what are some of the greatest supply chain vulnerabilities that we face in the military and U.S. society at large?

Ellen Lord:
Well, in this report, we really look at the Defense Industrial Base under the framework of our national defense strategy. So now it is all about near peer competition, China, Russia. So when we look that we see, again, that over a period of years, we have offshored many, many sources of supply, and it’s not for one reason, it’s for a variety of reasons, whether it be regulations, whether it be labor costs, whether it be government support of different industries.

So what we did in this report was tried to really capture those risks, look at the opportunities, and come up with some specific steps that we can really take to reform how we go about looking at that supply chain, and in the end game, really get capability downrange to the war fighter, as quickly and cost-
effectively as possible. So to look at those sole source vulnerabilities, those offshore, we've come up with four key actions.

One is to begin to reassure our Defense Industrial Base, and as both, I believe, Secretary Work and also Senator Warner alluded to, there're a couple of key areas there with ship building, as well as microelectronics, fundamental to our capability. Secondly, we want to make sure that we have modern manufacturing and engineering expertise. We do not have nearly the number of scientists and engineers as China has. We need to make sure that we develop our talent to be able to leverage on these critical areas. Third, we need to continue with defense reforms, because we are only going to be able to grow this industrial base and the supply chain, if we can, at the speed of relevance, deal with them.

So we've started with a number of those, but there's much further to go. We want to make sure that our traditional Defense Industrial Base is widened to get all of those creative, innovative companies. We know the small companies are where most of our innovation comes from, and the barriers to entry sometimes to getting into the department of defense, are rather onerous.

We also have seen that our adversaries are channeling funds towards these small companies when they reach that precarious place, where they might not actually have the cash to move on. We see that through all the committee of foreign investment in the United States, countering all of that [sipios 00:20:30]. We spend so much time on defense, unwinding those transactions. We want to get on the offensive side, and that's why we're doing things like our Trusted Capital Marketplace that we just rolled out formally yesterday. So it's really bringing non-traditionals in, and acting really quickly to make sure we can incorporate that new technology into our existing platforms and future ones.

And finally, we have to come up with new ways to have private-public partnerships. Our team has spent quite a bit of time, as you well know, Jeb, looking at certain models, and there is a question of how do we as a nation, how do we as government implement some of these strategies, and how do we support our industrial base to make sure they can deliver what we need?

Dr. Nadaner:

Well, that's a very important point you raised, and I think Senator Warner has, I think, an important story to tell about some recent action in the Congress on microelectronics in semiconductors. In my opinion, there's been several pieces of landmark legislation in the last 10 years. This is one of them. So, Senator Warner?

Mark Warner:

Well, Jeb, thank you. And this really goes to what [Bob 00:21:58] Work had mentioned in his source comment. For a long time, the terminology of industrial policy was basically forbidden in our political debate. And I think we've seen that our competitor, particularly China, with what I call an authoritarian capitalism model, where they have ferocious domestic competition amongst Chinese firms, until any Chinese national champion emerges.

That Chinese national champion then gets 75% of the Chinese market on average, which equates to 20 to 25% of the global market, and then that Chinese national champion gets, again, in the case of Walway, close to a hundred billion dollars of backing. So there is no way any American competitor or for that matter, Western competitor, can compete with that.

And that model, we've seen China start to move this way in semiconductors, we've seen it moving in telecom equipment, we're seeing it move in other areas. So we in a Congress should act. I'm going to claim two wins here, Jeb, not just one. One, we came up with a telecom bill that was put into the... In the NDA this year, that looks at 5G and beyond, that says, we didn't give us much money, and we wanted a billion and a half dollars, where we would support the development of a Western based
alternative within 5G, and also an international fund that actually developed what we would call next generation Open Radio Access Network, O-RAN type technology, so we can almost leapfrog over China on an international base as number one.

The specific legislation that you’re talking about though, is the CHIPS bill, where we basically say the American government has to have real skin in the game, and Senator Cornyn and I are co-sponsors, we had other, as part of this one. We had Chuck Schumer and Tom cotton is our other sponsors. We show we are stretching the breadth of our political agenda there. Our political partnership, that we aspire to get about $15 billion that could make substantial American capital investment.

We thought about TSMC in terms of their first facilities, first fab in Arizona. We wanted to not limit it just to TSMC, but there is a real breakthrough. And again, if you look back historically, you’ve seen this in any partisan deal, democrats were maybe a little more forward leaning on this in the past. That is no longer the case. My Republican colleagues around 5G, around chips, around a series of these critical technology areas. I think we realized that the kind of 20th century model is not going to work against this authoritarian capitalism model that China is promoting.

So I think, chips may be a model that we may need to... One, we need to fully fund it, two, it may need to be replicated in a variety of other technology fields, and three, and I think this is an important point as well, I think we need as important as our base is, and I really want to, again, commend secretary Lord for bringing back some of that supply chain back into our country, we can't build it all, and design it all, and develop it all, only here in America. We’ve got to build out a coalition of the willing. And that coalition of the willing, I think, around technology alliances, and this kind of joint development, could become the model for the 21st century.

If the 19th century was the model of great military alliances, and post-World war II was the model of great economic alliances, the 21st century may be the model of... We may have a model of technology-based alliances around in a sense, democracies who are willing to jointly develop technology, make sure that we set the rules standards, make sure that those standards reflect transparency, human rights, then those values can be built into even your technology standards, and I think is an area that's going to garner a lot of attention going forward.

Dr. Nadaner:

Thank you. Bryan Clark, what are your thoughts on the possibilities of a international Alliance for the manufacturing Renaissance and these key technologies such as energy storage, microelectronics, telecom, pharmaceuticals?

Bryan Clark:

Yeah, absolutely. So one thing we’re finding is that our supply chain is not such a supply chain anymore. It’s increasingly a supply ecosystem. So, with software becoming a bigger component of every new product, you’re seeing that they’re continuously being developed. So a product is built and then is finished and then it’s turned over to somebody as a supplier, turns it over to a manufacturer. You don't just have a chain anymore, you’ve got multiple players that are simultaneously creating products, developing new products, and then iterating products that are already out there.

So, that ecosystem involves a lot of players that are not all here in the United States. We almost need to take a broader look at where the supply ecosystem exists, and then evaluate all the players and their relative to their risks for resilience. So how likely is it that they’re going to be continuing to operate in the future? Their risk to security vulnerabilities. So are they in a country that is subject to the state's control, like in China or potentially in other countries? And then also what are their value opportunities? So, to pursue public-private partnerships, to pursue these foreign alliance relationships, we’d looked for
opportunities where there was a lot of value in building that relationship. So what parts of the ecosystem have a high value proposition associated with them?

So there are certainly opportunities there if we broaden it, how we think of the supply chain and think of it more as a supply ecosystem. And thinking about semi-conductors in particular, there are... Right now, Korea does the best job when it comes to some of the packaging technologies that are being used in semiconductor manufacturer, as well as some of the mask and technologies that are used to create the semiconductors, and the U.S. has the best design tools, and then Taiwan arguably has some of the best manufacturing processes.

We have to think about how to start bringing those entities together into that ecosystem and understanding what's our level of risks from a security and resiliency perspective, and then where's the most value. And there could be opportunities to bring some of those home, which I liked your idea of strategic reassuring. So bringing home some of the high-end semiconductor fabrication that's going to have high value and it's going to have a good business model for the United States certainly makes sense. But then there's parts of the manufacturing chain, like maybe packaging, that don't need to be brought home, and that offer a low risk from a security and resilience standpoint, and they could be done in Korea, for example.

So I think if we look at the ecosystem model, we can start to identify those opportunities for foreign alliance partners to be a part of that supply ecosystem and that we can trust them, and then opportunities for public-private partnerships where we see high value in a private company is going to be incentivized to participate.

So yeah, I think there was definitely some opportunities out there for particularly in microelectronics, but that expanding that model outwards, when you think of 5G, which is mostly about microelectronics, and you think about, other systems manufacturer for the defense industry in particular.

Dr. Nadaner:

Very good. Secretary Work, what's the relation between the defense industrial base and the commercial industrial base? Or in other words, the choice Americans have, is it between butter and guns, or can they have both?

Robert Work:

Well, they can definitely have both Jeb. The civilian and defense sectors are not distinct, they're overlapping. And this is even more evident in the current, just technological tsunami that is rolling over the earth, when the cold war, much of the tech innovation came from U.S. government labs, and U.S. government R&D, now many of the things that Senator Warner mentioned, 5G, Artificial Intelligence, Quantum computing, all of those things, the cutting edge of technology is in the civilian sector. So dual use technologies now are driving the train in terms of technological innovation.

The defense sector is therefore dependent upon commercial suppliers, parts and technologies, and the supply chains have become very complicated because they're highly federated after years of industry consolidation. And this is especially true at the component level, which is why I applaud Ellen's focus on supply chain reassuring, and really trying to understand the vulnerabilities. Department generally deals with a prime contractor, and the prime contractor procures the things that it needs to produce the capability that has agreed to provide to the department.

So it's very easy to have those supply chains right now leave the formerly recognized [deep 00:31:53], because the primes are dealing directly with regular commercial industrial base. So I'm just going to make something up. I mean, we might find out that C-130s are kept in the air because of a particular fastener. And this fastener is being made by a mom and pop company that was brought on by a prime,
Mark Warner:

Jeb, can I just jump in real quickly to follow up on what Bob was saying? One, I think he made a couple of really important points. I'm all for reassuring as much as possible, but I think he's right, that if we go back to American only, we may not be getting the best technology. So here's where I think this notion of a coalition of the willing, and it may be broader than simply Five Eyes or NATO. I clearly think it will include our friends in Japan, South Korea, Taiwan, Singapore, may include India and Israel, et cetera. Number one.

Number two, I think your point about the small company that makes the fastener, that may be holding up the whole C-130 fleet, great point, but, and it goes to the Ellen's comments, that idea becomes the default reason why the big prime say, "Well, we got to do all this as opposed to allowing this kind of innovation.

So figuring out how we get that value of the small company, value of the innovation with some potential backup, is a really important item. And this is a little about how I'm cooking here. I don't want us to get through the whole report without giving a shout out to secretary Lord as well, in terms of the workforce component piece. We've got to have a workforce that's trained. Secretary Lord has been very supportive of an effort.

I've gotten the southern part of my state in Danville, which is a tobacco, textile and furniture, not exactly growth industries for a long time. They've got a very innovative program, they train welders and other folks that are involved in potentially shipbuilding. This is, I think, an innovative initiative that could be duplicated many places around the country where we've got parts of our country that are frankly with industries that have faded away, but have a good workforce with a good work ethic that simply needs the skills to be part of this Defense Industrial Base and Secretary Lord has been a big champion of that, so I'm going to make sure I got that on the record as well.

Dr. Nadaner:

Senator Warner, is there appetite of the Congress for something large, like the Eisenhower Training and Education Act, but for the 21st century for STEM, and not just for college educated engineers, but also
all the skilled trades that we're going to need, whether it comes to operating fabs or for shipbuilding or complex machine tools? Is there appetite in the coming infrastructure bill for something like that?

**Mark Warner:**
I think there's talk. Whether there is appetite that translates into the kind of dollar volumes we need, I'm not 100% sure. I also think, and I say this as a former governor as well, the history of our, not necessarily defense base, but broader based government sponsored workforce training programs, pretty damn mixed in terms of dollars in, versus output out. I frankly, as a private sector guy, have a lot more faith in private sector training programs than I do in government training programs. 

So, the big radical idea that I would like to bring to the table, is changing the tax and accounting treatment of investment in human capital, and we can direct this in ways towards skillsets that we need. We can direct it for poor populations. Let me give you a 30 second example. If a company goes out and spends $5,000 on a robot today, the company can get an R&D tax credit for buying that robot. The robot goes as an asset on your balance sheet. If you’re a public company, you can report upon it.

If a company goes out and spends $5,000 training two human beings to be more effective than that robot, they don't get the same tax treatment, they can obviously write it off as an expense, but they don't get any tax credit for that. It is viewed on your balance sheet as an expense, not an asset, and there's no reportable item.

If say we equalized the treatment of investment in human capital, and we could even gear this towards those skill sets that are needed around the Defense Industrial Base in creating the equivalent of an R&D tax credit for that business-based training, as long as we had metrics on outcomes, if we thought investment in human capital as an asset class and the SCC has actually moved in this direction, they'll start requiring public companies to have public company reporting. That kind of approach, and we could tailor it to industries that are important for our country, I think could be almost an easier sell, more radical, but an easier sell than a simply, multi-billion dollar plus program on government training programs that have had somewhat level of mixed results.

**Dr. Nadaner:**
This is a terribly important idea. I mean, I've seen some of the work by the National Association of Manufacturers, just the ability to capitalize training expenses versus treating as an ordinary expense could, in some cases lead to a doubling of training for Americans.

**Mark Warner:**
And just remember, the R&D tax credit was a radical idea back in the 70's and the accounting industry fought it tooth and nail because it's too squishy. It drove as much investment over the last 40 to 50 years as any single governmental policy, rethinking in a broad way. And I think there's such an ability to build a totally different kind of bipartisan coalition around this idea that would have businesses support. I've, frankly probably had more success with my Republican colleagues on this idea than my democratic colleagues, but it's an idea potentially whose time has come.

**Dr. Nadaner:**
Thank you. I would like to give an opportunity to the press to ask some questions. One question, I see from Marcus Weisgerber, from Defense One is he would like to know about some of the practical steps that the U.S. government could take to further that international cooperation alliance, vis-a-vis China in terms of reassuring capabilities. Ms. Lord?
Ellen Lord:
Can I speak to that, Jeb, a little bit. Yeah. Thank you. I think we have already begun that, and we need to just amp it up. I think when we are talking about initiatives, they have to be around real work, real issues, specific products and programs. And we are working out of acquisition and sustainment for instance, with the Australians on processing some rare earth minerals here in the States. So where there is a common need and a common way to work together to serve everybody's demand signals, that's when it works.

So I think we look at the fragilities we have, the offshore dependencies, we work closely with our partners and allies, and especially Canada, UK, Australia being international technological innovation base, and we find common pain points, and we leverage our collective abilities to address those. So I think we just need to get the reps and sets in, if you will, on those, get a number of them going, and focus the energy and effort through forums we already have established, because we have the infrastructure, if you will, from a bilateral and sometimes trilateral perspective to get these things done. So we just need to utilize those. Thank you.

Mark Warner:
And the Brits have got a proposal out there and I think they call it the... I can't recall, T-10. They've got an idea. They even addressed that I've taken some time looking at... We're going to have some bipartisan legislation that would try to promote this idea. We're going to have some legislation that would try to promote this idea. I agree with secretary Word. We can start this with specific issue areas, bilateral, trilateral. I ultimately hope we could go to some broader based coalition, and again, I think the partners would be different than some of our traditional military alliances.

Ellen Lord:
Yeah, we've done a little bit of this work through the CNAD, the Council of National Armaments Directors at NATO, that forum as well as the five powers with Germany, UK, France, and Italy. So try to use some of those forums. So back to you, I know we're short on time here, Jeb.

Dr. Nandaner:
Thank you. My understanding is that Sarah Cammarata from Politico has a question. I want to make sure she gets an opportunity. Oh, so Sarah and Marcus had the same question, which is, Ms. Lord, what's your assessment of how the separation between research and engineering and acquisitions and sustainment... How has that proceeded to this point?

Ellen Lord:
I think it's allowed the department to give more focus into two critical areas. On the acquisition and sustainment side of things, it's allowed us to really look at our acquisition policies and procedures, it's allowed us to have the focus to totally rewrite how we do things with our new adaptive acquisition framework, while making sure we pay attention to the real threats we see today such as cyber attacks and so forth. So it's allowed us to focus and really dig deep there, whereas on the R&D side, there's been the ability to look at 10 critical areas in terms of modernization for our war fighters. So more focused than ever on AI and Quantum, microelectronics, a number of other areas. So I think it's working well, and it's allowing us to double down and really make sure that we focus on the priorities under our national defense strategy.
Dr. Nadaner:
Thank you very much. I'm just going to wrap up by saying, it's wonderful to see this bipartisan nonpartisan conversation on the key issues that face the country. It's important to note that in a news filled year, a lot has been done in the department, a lot has been done in the Congress, and I'm very hopeful about the coming year. So now I turn over to Bryan, and I thank Hudson for providing us forum.

Bryan Clark:
Well, thank you, Jeb. It was our pleasure. We really appreciate you all being here for this conversation. I would... Congratulations Jeff, and also to Secretary Lord on this terrific report, and the great work that went into it. I'm glad you were able to get it out before the end of the term here. And I'd like to thank our guests today for this terrific panel, and the excellent discussion that we were able to have, Secretary Ellen Lord, Under Secretary of Defense for Acquisition and Sustainment, Senator Mark Warner of Virginia, Secretary Robert Work, former Deputy Secretary of Defense, and also to Dr. Jeb Nadaner, who was our moderator today. And I really appreciate you all being here today, and thank you very much from the Hudson Institute. Goodbye.

Dr. Nadaner:
Thank you.