

Center for Strategic and International Studies

TRANSCRIPT

Event

**“Investing in Leading-Edge Technology: An Update on
CHIPS Act Implementation”**

DATE

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FEATURING

Gina M. Raimondo

U.S. Secretary of Commerce

CSIS EXPERTS

Sujai Shivakumar

Director and Senior Fellow, Renewing American Innovation Project, CSIS

Charles Wessner

Senior Adviser (Non-Resident), Renewing American Innovation Project, CSIS

Transcript By

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Sujai Shivakumar: Good morning and welcome to CSIS. My name is Sunjai Shivakumar. I'm a senior fellow here at CSIS. And I direct our Renewing American Innovation Project here at CSIS.

So, as you know, innovation is the engine that powers our nation's economic growth, our competitiveness, and our national security. And semiconductors are the platform on which our economy runs, and which – and on which so much of our innovation is built. That's why implementing CHIPS and Science Act is so important. In various ways, CHIPS pushing the renewable or how we manufacture in the United States, greener workforce, connect Americans to the innovation economy, reinvest in our R&D infrastructure, build new public-private partnerships, and cooperate with our allies and strategic partners and, importantly, rewire and grow resilient supply chains. So all this is to secure the future of U.S. leadership in the 21st century. And it's certainly no small task.

So we're particularly honored to have with us today the Secretary of Commerce Gina Raimondo to give us an update on the implementation of the CHIPS Act. As a former venture capitalist, Secretary Raimondo understands innovation. And as a former governor, she understands the need for tangible outcomes and inclusive technology-led economic development that embraces all Americans. So it's my special pleasure to invite her to deliver the keynote, Investing in Leading-Edge Technology: An Update on the CHIPS Act Implementation. Following the keynote, I invite the secretary to a fireside chat conversation with CSIS senior adviser Charles Wessner. And so, without further ado, Madam Secretary. (Applause.)

Secretary Gina M. Raimondo: Thank you. Thank you. Can you guys hear me? Yes. Great. Thank you. Spring is here. (Laughter.) It seems like spring is here. That's why I wore a bright color. Anyway, it's wonderful for me to be here. And big thank you to CSIS for hosting us. It's an important message. And I appreciate you giving me this opportunity.

So I'm here because it was just about a year ago, last February, that we at the Commerce Department rolled out the funding applications for the CHIPS and Science program. And when we did that a year ago, I said that the CHIPS initiative mirrors the space race, the space race that the U.S. had with the Soviet Union decades ago. And at that time, President Kennedy issued a call to America to put a man on the moon. And in the decades since, the whole country – academia, industry, the government – rallied together to secure America's place at the frontier of innovation. And, in some cases, tripled and quadrupled the number of scientists that our institutions of higher education produced.

We have the same opportunity right now. Right now, six decades later, President Biden is calling on the nation to unite around a common purpose so that we can once again cement our leadership role in this global technology race in the semiconductor industry. Everybody here knows what a big deal semiconductors are. Everything is powered by semiconductors – windshield wipers, phones, pacemakers, pretty much every piece of military equipment. They're everywhere, in everything fundamental to our lives – from the moment you wake up in the morning until the moment you go to bed.

But now on top of all of that, there's been a gamechanger in the demand for leading-edge semiconductor chips. You all know what it is. AI. When we started this, generative AI wasn't even really part of our vocabulary. Now it's everywhere. It takes tens of thousands of leading-edge semiconductor chips to train a single large language model. The truth of it is, AI will be the defining technology of our generation. You can't lead in AI if you don't lead in making leading-edge chips. And so our work in implementing the CHIPS act just got a whole lot more important.

The truth of it is, the U.S. does lead, right? We do lead. We lead in the design of chips, we lead in the development of AI large language models. But we don't manufacture or package any leading-edge chips that we need to fuel AI and our whole innovation ecosystem, including chips necessary for national defense. We don't make it in America and the brutal fact is the United States cannot lead the world as a technology and innovation leader on such a shaky foundation.

We need to make these chips in America. We need more talent development in America. We need more research and development in America and just a lot more manufacturing at scale.

By the way, other countries like China aren't shy about its ambitions and they're taking it – China's taking an increasingly ambitious role in increasing their own chip production.

So the truth is if we want to continue to lead on these central technologies then we at the Commerce Department, you folks at NIST, and the team you've built we got to nail it. We have to nail the implementation of the CHIPS and Science Act. We have to execute like every detail matters because it does and we have to be bold enough with our vision, which is why I liken it to the space race.

So when we rolled this out a year ago I said we would be judged on two things – first, whether we were able to build a reliable and resilient semiconductor industry that advances our country's technological

leadership and, second, whether we were good stewards of taxpayer dollars.

As a former governor I take that very seriously. We treat every dollar as if it's, you know, our own. A year into it I want you to know I'm proud to say we're on track to accomplish both. In record time this team at the Commerce Department has stood up a program, a team, which is flexible, fast, and world class.

They built a team that's incredible. Two hundred people now work in the CHIPS program office who represent decades of experience in government, investing, investment banking, industry, research, academia – folks with technical and policy expertise and a track record of delivering on big things.

I think the early results are pretty incredible. I do. We're in the trenches all day every day working. One of the guys on our team told me he recently discovered he has a vitamin D deficiency because I don't let him out to the sun. (Laughter.)

But so we're trying to pull out a little bit here. Since President Biden signed the CHIPS Act and before we've put a single dollar out into any private companies the private sector in this country has announced \$200 billion in semiconductor manufacturing investments.

That's incredible, and I want to thank industry. I want industry to hear from me a thank you for the way you've responded with your willingness to partner with us to achieve our national security goals.

Since CHIPS Act is signed nine states have created new economic development programs targeted to the semiconductor industry to provide matching funding and further leverage the CHIPS Act.

More than 50 community colleges across 19 states have announced new or expanded programming to support semiconductor industry opportunities and we're partnering with labor leaders and labor unions and manufacturers on training the workforce of the future so that we have the skilled folks we need to build the fabs and work in the fabs and that means we're sitting down with everyone including teachers unions across the country to ensure high school students – not all these jobs require a college degree. Many do. Many do but not all do.

So we want high school students to get the skills they need to get the jobs that these semiconductors need to have a strong career pathway and we are working with academia and government research agencies, entrepreneurs, and industry to stand up the National Semiconductor

Technology Center, NSTC, which will tackle the research and development challenges facing America's chips manufacturing ecosystem and up skill so we have a skilled workforce.

In fact, it was just a week ago or two weeks ago we announced Deirdre Hanford, who is a well-known, well-recognized industry veteran who will be the CEO of that – Natcast, the National Semiconductor Technology Center effort.

So that's all good news. It's exciting. I spent the weekend with the governors. They were in town for the National Governors Association. They're all so excited to lean into this. Companies are. Academics are. Community colleges are. We're ready to go.

Here's the bad news. We've received over 600 statements of interest from companies, from the biggest to the smallest, and the brutal realities that a significant majority of those companies expressing interest aren't going to receive funding, including many excellent proposals by, you know, strong companies that are worthy. But the reality is – and I've said this many times – the point of this program isn't to sprinkle a bunch of money out to as many companies as possible, even though, candidly, that would be easier. Our job is to make targeted investments in relentless pursuit of achieving our national security objectives.

And before we start announcing some of the big announcements, I do want to reiterate that. That's the purpose of our effort here. At the outset, we said we would invest about \$28 billion of the program's 39 billion (dollars) in incentives for leading-edge chip manufacturing. But I want you to know, even though that sounds like a lot of money, the leading-edge companies alone have requested more than \$70 billion. So that means we have a lot of tough conversations.

We are engaging industry in a spirit of collaboration, and they have been incredible partners, but as I said, I'm obsessed with protecting taxpayer money, and we have to be tough with companies. Our tough negotiations with individual companies will result in each one of them doing more for economic and national security at a lower cost to the taxpayer. That means we're going to create tens of thousands of high-paying jobs in the communities where these fabs are located, we'll enhance our national security work and, of course, every one of these companies has to adhere to the national security guardrails of the CHIPS Act.

So, you know, ask any semiconductor CEO, how's it going with Secretary Raimondo, and they'll say, she's pushing us. She's pushing us to do more for less. Why? Because if I do that, we'll be able to fund more projects with the same amount of money and achieve our national security goals.

My conversation with CEOs of these chips companies pretty much goes the same way. They come in, they ask for billions of dollars – reasonable. I tell them, you’ll be lucky to get half of that, then they come in again to finalize the deal where they get less than half of what they wanted, and they tell me they’re not feeling lucky. That’s the reality. These are tough negotiations. That’s our job. And I want to once again thank them for their partnership, but we have a finite amount of money to meet our urgent national security goals, and so I have to make every dollar count.

We’ve made a few decisions that I’m announcing now. We’ve decided to prioritize projects that will be operational by 2030. I want to be clear: there are many worthy proposals that we’ve received with plans to come online after 2030, and we’re saying no, for now, to those projects because we want to maximize our impact in this decade. It’s not responsible to give money to a project that will come online, you know, 10 or 12 years from now if it means saying no to excellent projects that could come online this year.

This is tough stuff. None of this work is easy. A lot of people say, oh, you know, Secretary, this is risky – picking companies; picking, you know, winners and losers. Yes, of course there is risk. But I will tell you this: there is way more risk in doing nothing.

We were headed down a path of much greater national security risk before President Biden had the courage to fight for these investments as part of his overall Investing in America agenda. We cannot allow ourselves to be overly reliant on one part of the world for the most important piece of hardware in the 21st Century. That’s way riskier. So that’s why we’re doing what we’re doing.

Last year I said the goal – when we’re all said and done with this CHIPS initiative – is to have at least two new large-scale clusters of leading-edge logic fabs, each of those clusters employing thousands of workers. I’m pleased to tell you today we expect to exceed that target. Now that we’ve seen the applications, the way industry has responded, I think we’re going to do better than what we told you we would do a year ago. We think our investments in leading-edge logic chips – leading-edge logic chip manufacturing will put this country on track to produce roughly 20 percent of the world’s leading-edge logic chips by the end of the decade. (Applause.) Thank you. That’s a big deal. Why is that a big deal? Because, folks, today we’re at zero. (Laughs.) Today we’re at zero.

So a year ago, before we saw the applications, I didn’t know exactly what we could do, we said we want at least two ecosystems. And today I’m confidently standing before you to say, by the end of the decade we’re

going to go from zero to 20 percent of leading-edge built in the United States of America. And the supply chains will also come along with that. Supply chains can no longer be as vulnerable to geopolitical challenges as they are today. We also believe we will be successful in having leading-edge memory, which is also a critical input for AI systems, right here in the United States. (Coughs.) Excuse me. Onshoring – this is important – cost-competitive, leading-edge memory at scale, right here in the United States of America.

In fact, I also think – and I feel more certain of this every day as we work with industry and look at the 600 proposals – in addition to those goals I laid out I’m confident the United States can become the home to the entire silicon supply chain for the production of these leading-edge chips – from polysilicon production, to wafer manufacturing, to fabrication, to advanced packaging. That’s the game, by the way. When I say, let’s be bold, this is not build a few new fabs and call it a day. No. Soup to nuts. Polysilicon to advanced packaging everything in between, including R&D, in the United States.

And to those of you now with a bubble over your head saying: Secretary, what about mature node? We’re on that too. We’re not losing sight of the importance of current generation and mature node chips, which you all know are essential for cars, medical devices, defense systems, and critical infrastructure. Just think back to a minute ago of the pandemic. We were furloughing tens of thousands of workers from car companies for lack of a single legacy chip. We have got to improve the fragility of that supply chain.

And we will do that. Already to date, we’ve made three announcements of investments in current and mature chip companies – BAE, Microchip, and Global Foundries. Not quite \$2 billion, over a billion and a half dollars. And we’re going to continue to announce additional investments in current and mature production to make sure we have a domestic supply of these critical chips.

So I’ll end with this. As I’ve said, if CHIPS for America is to be successful, and I know it will be – and I want to thank my team, many of whom are here today, if you’re unbelievable dedication and hard work. By the end of this decade, by 2030, the United States of America will be the only country in the world where new chip architectures can be invented in our new research labs, including those funded by the NSTC. They’ll be designed in the United States for every end-use application you can think of. Manufactured at scale in the United States by well-paid American workers. And packaged with the most advanced technology in the world. All on our shores.

And engineering schools all over the country will be pumping out more engineers and technicians trained specifically for the chips industry. We're going to make building hardware sexy again. (Laughter.) How about that? Doesn't that sound fun? We need computer scientists to build software. We want those LLMs built in America. But how about making the hardware right here in America, with a dignified, decent, high-paying job?

We've already caught the attention of the world. We have. And the excitement for this program is palpable. I told you about the governors. This weekend I did a panel; like – almost 20 governors showed up. CEOs are excited. Labor unions are excited. Community college(s) are excited. High schools are excited. They want to know, what can we do to be part of our efforts to revitalize America's chip ecosystem. I just – it's amazing.

You guys in industry, you know, five years ago, certainly 10 years ago – five years ago, if you were thinking of expanding in chips the question was where in Asia do we expand, right? Now companies are saying they want to – they're saying: In what state in America should we expand? With what universities in America should we partner? Where should the NSTC be located, and with whom should they partner?

So thanks to President Biden's leadership and vision and belief that we can make things in America – he has a belief in his core of the vibrancy of the American manufacturing sector – I am so optimistic. I am more optimistic than ever. I want you all to know we're working day and night. We're going as fast as we can. But way more important than going fast is getting it right. And we are relentlessly pursuing our national security goals. Which means together, all of us, we're going to rebuild our industrial base, supercharge American innovation, create hundreds of thousands of good-paying jobs, and meet I think one of the most monumental challenges of our time.

So thank you so much for coming. We're going to have a(n) open discussion now. But – (applause) – I'm excited for what's going to come. (Applause.)

Charles Wessner: Well, I'm not sure I want to ask questions, but might ask where do I sign up. (Laughter.) That was certainly inspiring.

Sec. Raimondo: Thank you.

Dr. Wessner: Sometimes in Washington we seem to be trying to achieve the least possible, and I have the impression that you're trying to achieve a great deal more than that.

Sec. Raimondo: Thank you.

Dr. Wessner: And without falling into the trap of being one of these Washington skeptics, you said for the first time you wanted to hit 20 percent, which even for some of those of us who might be called wonks in this area, that's a big number.

Sec. Raimondo: It is a big number, yeah.

Dr. Wessner: Well, then there's a related number. Although I'm a recovered economist, I nonetheless would want to ask whether or not the funding is sufficient to meet those ambitious goals.

Sec. Raimondo: Yeah. Thank you for what you said, your kind comments.

It is. It is. Like you said, a year ago when we put out the application, I wasn't sure. I was – I was making some assumptions. Now we have 600 statements of interest. We're in the thick of these negotiations. We know the plans. The companies are really coming forward and being ambitious. So I – yes, I think this is enough money to achieve that goal.

It doesn't mean that at some future date we don't need what people call a CHIPS II or more money. You know, like I said, it's a whole ecosystem here. I think we may need that for sure. But based on everything I know now and where we are, we're right where we want to be and this is achievable with the money we have.

Dr. Wessner: Well, that's encouraging. Do you think the political establishment – if I can still use that term – here in Washington appreciates that a company like TSMC last year spent \$30 billion on expanding their facilities and refining them? The National Fund in China last year spent \$41 billion. I'd like to think that we're the best and the brightest, but at some point the leverage is out of –

Sec. Raimondo: Yeah. Look, it's a great – this point that you're making, I don't know if people understand it. If you stare at it on a paper every day, it's a pretty scary thing, you know. China – as I said, China is not shy about its ambition. They are pouring in, you know, depending on who you listen to, a hundred billion dollar(s) plus to their own domestic chip manufacturing. So this is a tall order.

That being said – that being said, all of the big chip customers, leading-edge chip customers, are American – you know, Apple, Nvidia, Microsoft, Google, Amazon. So we do have huge advantages in our ecosystem. The designers of these chips – Nvidia, AMD – are American.

So I don't – we definitely don't have to go dollar for dollar with China at all. However, this is why I'm so urgent about it. You know, what TSMC is

contemplating doing in Arizona is path breaking, you know, and they are investing in the United States and we're grateful that they're doing that and we're going to make sure it's successful.

Dr. Wessner: Well, the leverage you mentioned there is perhaps, as you suggest, one of our great advantages. Some people like to bring attention – in fact, I'm very happy to hear that you're talking about the legacy chips. I don't know your view but I find it a very unfortunate name. It's like selling something from grandmother's attic.

Sec. Raimondo: I know.

Dr. Wessner: It's actually the path to the Green Revolution, the path to electric vehicles.

Sec. Raimondo: I know.

Dr. Wessner: Here at CSIS we prefer foundational as a way of trying to point out how much depends on that.

But the question is, do you expect that you'll have the resources? I understand and admire your focus on leading edge. That's where the ultimate game is.

Sec. Raimondo: Yeah. Yeah.

Dr. Wessner: But the rest of the economy, as you also mentioned, depends on the legacy. Can we get more resources to that sector? Would that be possible?

Sec. Raimondo: Yes. So the legislation requires that we invest a minimum of \$2 billion into foundational chips. We will do multiples of that. Yeah, we will do – in fact just a week ago I was in Malta, New York, with Global Foundries doing the foundational chips and that alone, that one announcement, was a billion and a half – 1.5 billion (dollars).

So we'll certainly exceed the 2 billion (dollars) in statute. We think of that as a floor. Look, if we had more we would do more, no doubt about it. Like I said, we're going to have to say no to excellent companies with excellent proposals.

It's so tough. We could easily invest quite a bit more in excellent companies. But I do feel we can do both. We can do both. We can do leading edge – leading-edge logic, leading-edge memory, and current mature, and still have some for the supply chain.

But that's why I'm not on the Christmas list – Christmas card list of a lot of these CEOs of these chip companies because we're squeezing every dollar

because every dollar – I don't have to incentivize them – it's a dollar to invest in the rest of the ecosystem.

Dr. Wessner: You know, one of the things that sometimes goes under the horizon when we're talking about chips – we mentioned the 52 billion (dollars) in the direct grants. What is your view on the importance of tax incentives and tax credits?

Sec. Raimondo: Oh, thank you. Hugely important, and I want to thank Congress for that. I was involved in negotiating the bill and there were different views at the time – should we keep the tax credit, should a company be allowed to get a grant and a tax credit.

The tax credits – when this is all said and done the tax credits will be shown to have been an unbelievably powerful part of the incentive to stretch the capital and actually that is why we're able to do so much with relatively limited grant money.

Dr. Wessner: Well, that's fair. That's very encouraging to hear. We often mentioned training but will you be able to apply much of these resources particularly through the NSTC to strengthening the talent pipeline? Is that a priority?

Sec. Raimondo: Yes. We envision the NSTC as we were talking about to be some part as pure research and development, you know, working with industry and universities to have facilities, to have R&D.

But also we envision launching a workforce center of excellence. So the Natcast – NSTC – would have and run a workforce center of excellence which would be the national hub of all semiconductor workforce and training which is, I think, so exciting.

I did a lot of workforce development when I was the governor. So you could imagine having, for example, a standardized curriculum that every semiconductor company would approve of. So, for example, every cyber technician would have to – for the chip industry – would have to pass this curriculum. Every technician for chip industry would have to pass this curriculum. Every material scientist, for example. So our hope is that this workforce center of excellence can set standards and best practices to unify the industry, which is to the benefit of every company. You know, when it comes to talent, having more trained people to work in the chip industry benefits every company. That's actually where I think America really took its eye off the ball.

You know, when you talk to – like, for example, when I've talked to the CEO of, say, TSMC, a company you mentioned, they want to be here. They're investing, as you said, huge amounts of money. They want to make sure the

talent supply is here. Every one of these companies says: I need to be able to hire thousands upon thousands of Ph.D. engineers, college graduate engineers, high school graduate technicians. So, anyway, this is – I think that could prove to be the most important piece of work of the NSTC.

Dr. Wessner: Well, I was pleased to hear you say that. There has been some interesting work here done in Dr. Shivakumar's program at CSIS on these new training programs that have – are already spreading, and being taken up by the companies, interestingly enough.

Sec. Raimondo: Yeah, exactly. Exactly.

Dr. Wessner: But the – you stress the importance of meeting this moment with leading-edge semiconductors, especially with the AI revolution. And one question might be: Do we have the – what happens if we don't do that? And do we have – and do we have the talent to do it? And a related point would be – and I don't want to put you on the spot – but the some people have talked about getting a national security carve out for very high-end immigration, or perhaps at the very least stop sending away the people we've trained at MIT and elsewhere. When they finish their degrees put a green card on the diploma and keep them here instead of literally sending them to compete with us. Is that –

Sec. Raimondo: Yeah, yeah. So there's a lot in your question. The first – the first part, about what happens if we don't succeed, I mean, I really – failure is not an option here. If we find ourselves in a world a few years from now – just think about this, guys. All artificial intelligence, which is the defining generation – defining technology of our generation, runs on chips. You cannot train these models without tens of thousands of leading-edge chips. Imagine if we're dependent on a couple countries in Asia for our entire chip supply.

By the way, these are the large language models to train military equipment, nuclear simulation, satellites, bioterrorism. You want to buy all those chips from Asia? I don't. You cannot lead the world as the United States of America if you don't lead the world in this kind of technology and innovation, including manufacturing. So I don't know. I can't allow myself to think about failure, because it's just that important for our country's strength. I fly all over the world. America is the leader in the world. We have to stay there and advance that leadership.

You're right about immigration. You know, the president's called so many times for responsible immigration. We can't afford – we need to keep that talent. I would be strongly supportive of, you know, something that maintains highly skilled immigrants for this industry. It doesn't have to be so narrow. I wish it were broader than just the chips industry. But it's a huge thing that does keep me up at night.

Dr. Wessner: Well, sometimes –

Sec. Raimondo: And they want to stay here.

Dr. Wessner: Yes, exactly.

Sec. Raimondo: Sorry to interrupt. They want to stay here.

Dr. Wessner: I know. Now there's a certain – there's a certain irony that we spend hundreds of thousands of dollars to train them, and then ask them to leave, in a critical – in a critical area.

Sec. Raimondo: I know.

Dr. Wessner: But the numbers – if I'm not mistaken, the numbers wouldn't be huge, but they may well be critical going forward.

Sec. Raimondo: I agree with that, yes.

Dr. Wessner: Take a step back here. And I really mean that you've been inspiring on this. And I think the space act – or, the space race is really the appropriate metaphor. What do you see as your main challenge going forward to getting these awards out? And, you know, you'll make small groups of people happy and you'll make larger groups of people unhappy?

Sec Raimondo: Definitely true.

Dr. Wessner: Do you see any clouds on the horizon as you go forward that you need to handle? Or are you fairly confident that we have the bipartisan support that you'll need?

Sec. Raimondo: That's a good question. That's a good question. I think this is really hard. I'm not going to pretend it's not. Every decision is difficult. Every yes or no it was fraught with a lot of dialogue. It helps to have the north star of our national security goals. And that's what we're just really focused on. And that, I think, is allowing us to maintain the bipartisan support. So in the past month I have spoken with Senator Cornyn, Republican from Texas, Senator Warner, Democrat from Virginia, who were leaders on this. They're both still strongly supportive. I was with Todd Young, Republican senator from Indiana, the other day. With Schumer last week. All still strongly supportive.

So I think, yes. I think – I have no doubt that when we say no to good companies, I'm going to get calls from senators saying how come we didn't fund that company? And those will be uncomfortable calls. But

fundamentally, and they – you know, I understand why they make those calls. They want to stick up for their state. They want to create jobs in their state. And I tell them, give me more money and I'll fund the company. (Laughter.) You know, there's an easy solution to this, CHIPS two. Double it, I can double the number of companies, they're all –that would be great. But with the limited money I have to hit these national security goals, we got to make tough choices.

But, anyway, short answer is I do still feel we have a lot of support. I mentioned I was with the governors this weekend, National Governors Association was in town and I did a panel. And there were, like, 17 or 18 governors who showed up. Broadly bipartisan, you know, from all kinds of states – big states, little states, coastal, Midwestern. So I feel pretty good about it.

Dr. Wessner: You know, in line with what you're saying there, we – the NSTC seems to have enormous potential, something that's absolutely necessary to make our ecosystem work. But I've been disturbed sometimes when we see that there is, like, maybe a five-year horizon on that. How do you – how do you see the longevity?

Sec. Raimondo: I'm pointing to my team, because I say in our meetings: Don't be shortsighted.

Dr. Wessner: OK.

Sec. Raimondo: This thing has to be built for the decades to come. We have – it's a – you know, we have to have short-term goals. Like, we announced – at the end of last year, we announced a board of rock stars. We just announced the woman who's going to run it. You know, this year we want to watch this Workforce Center of Excellence. So we need short-term milestones. But really, these are 10-, 15-, 20-year long-term goals.

Dr. Wessner: Great.

Sec. Raimondo: This is – this has to be – it's hard in politics.

Dr. Wessner: Right.

Sec. Raimondo: It's really hard in politics to dare to think long term. But if we are shortsighted – this is our one chance to get it right, I think, so we have to maximize it.

Dr. Wessner: Well, I'm pleased to hear that. I think the idea that we're one and done on this is perhaps the single greatest risk that you may be – may be running in the long term.

Sec. Raimondo: I agree with that.

Dr. Wessner: Just a last question. We've talked about big companies and we talked about the logic. What about the smaller companies? Will you be able to help those companies prototype their ideas? Is that part of your plan?

Sec. Raimondo: Yes. I'm smiling because it is. We just had a meeting about this. So two points.

We are determined to give small grants to small companies. There are some unbelievably innovative companies in the semiconductor supply chain. You know, they're not building big fabs, obviously; that requires scale. But they might – they might have materials that are innovative or somehow inputs to the fabs. So we have a whole initiative internally to look at small companies to give them small grants. Once again, the majority will be told no, but many small companies are going to get funded.

But the thing you said is even more exciting in some ways. The NSTC will set up infrastructure, whether it's labs or testing facilities or prototyping facilities, digital twin facilities for little companies to use to have access to equipment and talent that they otherwise couldn't afford. And that's why we're building this NSTC for the long term. If we do our job right, I don't know – I don't know what the next – I don't know what the next wave of innovation is as these chips get smaller and such, but small companies should have access to these labs and facilities so they can develop the new technology even though they're capital constrained. We're extremely conscious of that.

Dr. Wessner: As someone who's worked on programs for small companies in the past, I'm very, very pleased to hear you say that. That's often the source of the new ideas that –

Sec. Raimondo: Exactly.

Dr. Wessner: – drive our economy and help drive the larger companies as well.

We could, obviously, talk about this all afternoon, but I imagine you have a few other engagements.

Sec. Raimondo: Thank you. I've got to get to work. (Laughter.)

Dr. Wessner: Thank you so much for coming.

Sec. Raimondo: Thank you.

Dr. Wessner: It's been a pleasure.

Sec. Raimondo: Thank you so much. Thank you. (Applause.)

(END.)