

Speaker 1: [crosstalk 00:01:48] [00:01:30] We'll use interesting to cover lots and lots things, but one thing was for sure, I could not see one human being because the lighting [00:02:00] was so bright.

Speaker 3: I know.

Speaker 1: And it's Hollywood, so they know how to do lighting. But it was like speaking into the abyss, which is just not a fun way to do it.

Speaker 3: Much better be able to know they were out there.

Anja Manuel: Welcome back ladies and gentlemen. I did not think that we were going to get through the conversation American Democracy ending on an optimistic note. But Susan and Amy Walter and Arthur Brooks are miracle workers. So thank you all for that wonderful discussion. [00:02:30] We are now turning to another topic that I don't think traditionally would've been on the schedule of the Aspen Security Forum, but has become strangely sexy lately, if I can say that, and that is the problem of resilient supply chains. It's been in the news nonstop, amazingly. COVID has made it a real issue. And I think we're going to discuss on this panel two things, both the temporary disruptions here, and secondly, [00:03:00] the national security implications.

So there are two real issues facing the US supply chain. One, record disruptions caused by COVID. This isn't really a problem of either capacity or infrastructure. It is a temporary dislocation because so many of our companies worked on a just-in-time inventory model. And now factories are shut because of COVID, many of them in China. The shipping lines are all disrupted. [00:03:30] Orders aren't coming in on time. But I would argue that all of those issues are temporary and will work themselves out as the global economy comes out of COVID.

But there is a second more important issue here. And that is that the COVID pandemic and crisis helped us realize how reliant we are and how much certain supply chains that are relevant to national security go through Asia and through China in particular. So [00:04:00] there, President Biden has done a lot of work. He asked for a comprehensive review for supply chains across multiple strategic sectors: the defense industrial base, the public health and biological industrial base, information technology, the energy sector, and transportation. So this is a huge lift.

We'll talk about on this panel whether all of those things are actually national security issues or some of them are more economic. But I cannot imagine a better group of people to have [00:04:30] this conversation with than this group. And I'll just introduce you all briefly. Mike McCaul is currently in his ninth term representing Texas's 10th district. And he's the Republican leader of the foreign affairs committee, deeply steeped in these issues as we'll hear about.

Mike McCaul: I'm not the professor of economics at Chicago.

Anja Manuel: Oh, were you though up there?

Mike McCaul: Just kidding.

Anja Manuel: You promoted?

Speaker 6: You've been promoted.

Anja Manuel: Exactly. Then we have Elissa Slotkin, [00:05:00] who is a representative from Michigan's eighth congressional district, former CIA analyst, and of course, acting assistant secretary of defense for international security affairs. So deep expertise in this area. We have Bruce Andrews, who used to be the deputy secretary for the US department of commerce and is now the chief government affairs officer and vice president of Intel. So understand semiconductors better than anyone else. And of course, Chip Davis, who's the CEO [00:05:30] of the Healthcare Distribution Alliance and is steeped in the issues related to pharmaceuticals, healthcare industry, and all of that supply chain.

So let me start, I want to take the first half of this conversation is really defining the problem. What's going on here? How much do we need to be worried? And then we'll spend the second half looking at some of those solutions. So Chip, maybe can I turn to you first? I know a lot of the healthcare supply chain went not only through China, [00:06:00] but through Wuhan in particular. And it was a real wake up call. So can you say a little bit about what happened? Why was this such a wake up call? How big was the problem? And do you think the industry is over reliant on China in particular?

Chip Davis: Sure. First and foremost, it's great to be with everyone here on this distinguished panel. It's great to be with everybody, anybody at this point. So it's wonderful to be back in person. Just very quickly, I'm the CEO, as Anja said, of the Healthcare Distribution [00:06:30] Alliance. We represent the healthcare distributors within the supply chain, sort of the nexus between the front end manufacturing community and the frontline healthcare providers. So we connect on a daily basis roughly about 1400 manufacturers all over the world, including in the United States, to about 180,000 to 200,000 healthcare providers every day. So that's just a quick backdrop of the context of what we do.

What we learned early on through this, if you go back to the first 90 days of COVID, is that not all supply [00:07:00] chain crises are created equal. And if you actually looked at the overall healthcare supply chain, I would submit to you, and we've actually done a report on this, that the pharmaceutical supply chain in those first 90 days was by and large very resilient and held up well. You go back to when we were all coming to grips with this and going to grocery store, your chain pharmacy, and I remember going in very vividly to the paper product aisle, and it was empty, or it was a third full. Then go back to the pharmacy

counter. [00:07:30] We were dealing with a crisis just like everybody else, but your 90 day generic supply of any hypertensives were still there. And I think that was a testament to everybody in the system, from the manufacturers to our members, to the frontline providers.

Couldn't say the same thing with medical surgical products, N95 masks, caps, gowns, gloves. And then we quickly got into this place where we're getting calls, not just from the federal government, but from governors. I live in Maryland. We brought in [00:08:00] an Airbus full of masks the governor brought in because his wife had connections in South Korea where she's from. And then you heard all these stories about governors competing with each other. So I think one of the key lessons, and you said it in the tee-up, which was this balance between the desire to control healthcare costs, which means in the supply chain controlling inventory and keeping it limited, oftentimes just within the strategic national stock pile, as an example, to a 28-day supply. That's insufficient for what we were all dealing with.

On the [00:08:30] balance, and I'm sure we'll talk about this, the balance of manufacturing, OUS versus US, I actually think this is an issue that both the current administration and the previous administration both deserve credit for. It was already a discussion prior to COVID, but I would tell you the trend line was like this. And prior to being on the distribution side, I spent 25 years on the manufacturing side, the last five in the generic industry. So it was beginning to happen. COVID took that conversation and just took it right up. And my biggest [00:09:00] perspective on that as we move forward, and we were talking backstage about this a little bit earlier, is I applaud everybody for coming to the table. And we have two leaders in Congress here who are really driving this discussion. But we can't forget what drove so much of that manufacturing overseas to begin with. This didn't happen five years ago. This has been going on for three decades. And if we don't systemically understand that there's actually some value to a global supply chain and make sure we don't unintentionally disrupt that global supply chain while trying to bring that manufacturing back [00:09:30] on shore, we might actually find ourselves worse off than better off.

Anja Manuel: Thank you. I want to come back later on whether it's a good idea to actually re-onshore a lot of this manufacturing. But let me turn next to Representative Slotkin. You have deep expertise in DOD. You lived it. We heard a lot of conversations yesterday about defense modernization, using dual use items, relying more on industry. You know from having been inside the Pentagon, that that's easier said than done. [00:10:00] You also recently co-chaired the defense critical supply chain task force. Can you tell us a little bit about what that task force found and what your concerns are specific to national security?

Elissa Slotkin: Sure. Well, thanks for having us. And I think for me, certainly, and I think every member of Congress, we were just at the start of COVID receiving these insane number of calls from desperate nurses and doctors and hospital owners, [00:10:30] saying, "Does anyone know where I can get masks and gloves? Does

anyone know how I can get my people something so they can protect themselves?" And I will just say that if a congresswoman with no private sector background is on the phone negotiating with a Chinese middle man in the middle of the night for a 78 cent mask, our supply chains on those critical supplies officially failed us.

So we got through that. And I think what I started [00:11:00] thinking about was, "Well, if this is where we were on things like a 78 cent mask, what is the status of the defense supply chains? What kind of dependencies, single source, particularly to China, do we have? Are we aware of those dependencies and are we mitigating that?" So we started a task force in [inaudible 00:11:19]. I co-chaired it with representative Mike Gallagher from Wisconsin. And I think the experience was informed also by representing two GM plants that have largely been shut down [00:11:30] on and off for the last five months because they can't get a 14 cent microchip.

When we opened up, we pulled up the rug to look at the defense supply chains, there were some creepy crawlies under there. And while I know we'll have a long conversation about semiconductors and chips, I think in addition to pharmaceuticals and other things, what are those critical things that could stop the Defense Department in our tracks if we actually had to engage, surge, and worst case scenario go to war? And [00:12:00] how do we make sure we know those vulnerabilities ahead of time? The one that got my attention, as an example, was propellant. And it turned out that 90% of the propellant in our munitions is single sourced to China. So I don't think there's anyone who's missing the irony that if we had to go to war, God forbid, with China, that they control 90% of the propellant in our munitions. That feels like a bad vulnerability.

So into the NDAA, into the Pentagon's budget, we put a bunch of things, [00:12:30] again, learned from industry. First of all, transparency, just know your vulnerabilities. Come up with a corporate strategy to actually deal with supply chain issues. And then in particular, while I would love to bring all that manufacturing back to the United States, preferably into the state of Michigan, I will also say that that's probably unreasonable to bring it all back. So how do think strategically with our allies about coalition shoring? Making sure we're not just dependent on China. [00:13:00] Where is India? Where are other allies? And how do we combine that buying power? So we put a bunch of pieces of legislation urging that from the Defense Department, and they owe us that strategy. And now we're doing the same thing on Homeland Security, the Department of Homeland Security.

Anja Manuel: Thank you. Can I just ask you a follow up? Because you said you lifted the rug and there were lots of creepy crawlies.

Elissa Slotkin: Yes.

Anja Manuel: You mentioned propellant.

Elissa Slotkin: Yep.

Anja Manuel: What else is there? What are you worried about?

Elissa Slotkin: Certainly we thought quite a bit about what would happen, for instance, if there had been a shortage of insulin, [00:13:30] what that would do for the active duty force. Just think about that for a second. We looked at chips, rare earth minerals, which I know we'll talk about. But frankly, it's not technically part of supply chain, but we looked at our workforce as well. The defense contractor workforce keeps us in business. And if they can't go to work, if there's some inability to get qualified people to work, that's also in the chain that would really hamper us. So we looked at all of those things.

[00:14:00] The propellant was the one that got everyone's attention and got sort of our blood up. But it's on the Pentagon to figure out what is critical. And that list will change. It's not the same thing every decade, every year. But if you don't identify those things, you don't have transparency and know where your vulnerabilities are, well, then you get stuck. As many of our companies are, aren't able to sell their product, aren't able to produce, defend the country in a worst case scenario.

Anja Manuel: Perfect. That's really helpful. Thank you. Bruce, let me turn to you next [00:14:30] because semiconductors is something that a lot of us in this room and in America didn't pay a lot of attention to. It was working. There was Moore's law. They were getting faster every year. Everything propelled, the way I think about it as a layperson is it is the brain of everything that powers your life. These little semiconductor chips are in your phones. They're in your computers. They're in your car. They're in your television. They power absolutely everything. And we had this amazing [00:15:00] geopolitical system where, I'm going to ask you, Bruce, to describe it in detail, but in a broad sense, many of the most advanced chips are designed in the US or in some cases in Europe, manufactured in Asia and Taiwan, Korea, Japan, increasingly China, then assembled into all of the products in your pockets in China and shipped out to all over the world. So this is the fundamental global supply chain. Bruce, can you tell us, give us the context of the state [00:15:30] of the semiconductor industry and its environment and geographic [inaudible 00:15:35]? Where are we?

Bruce Andrews: Absolutely. And you've really hit on what is a really important point, which is American companies, European companies are incredible leaders in these technologies, but it's increasingly become geographically concentrated in manufacturing. As you pointed out, literally everyone in this room and anyone who's watching this online is watching it because they have a semiconductor in the device that you're [00:16:00] using. And as the world becomes increasingly technologically advanced and interconnected, semiconductors drive all of this.

As the Congresswoman mentioned, most people would not have known they had semiconductors in their automobile and that a relatively inexpensive chip could really slow down and create shortages. But that's the world that we live in right now.

And because of the geographic concentration of the manufacturing, it presents unique challenges. [00:16:30] During COVID, we saw all kinds of causes for why manufacturing was impacted. Some of it is the ripples went through from the one end of the supply chain to the manufacturing process, whether it was COVID, whether when you have one facility shut down, then that ripples through the entire process. And so what we're looking at is how do we diversify both manufacturing and supply chains? And I do want to say a thank you to Congressman McCaul for his [00:17:00] leadership in helping to co-sponsor the CHIPS Act. That's an incredibly important effort by the US government to recognize that this is a global industry, but one that it's not just companies, but it's also countries that are participating in.

So in 1990, 37% of semiconductor manufacturing was in the United States and about 20% was in Europe. That number is now, today, 12% of manufacturing is in the United States and about 9% is in Europe. [00:17:30] And as Anja mentioned, a huge amount of that has migrated to Asia. Which, global competition is a good thing. But as we recognize when you come to having shortages and you come to having geographical situations that affect across the world, we need to have resiliency and diversity in the supply chain. So the CHIPS act is a very important statement by the US government that we're going to participate in this process. Because the Chinese have set up a \$1.4 trillion [00:18:00] fund to fund their emerging technologies. Korea just passed a \$450 billion tax bill. Japan is doing subsidies with semiconductor industry. The EU is working on chips. Taiwan, for years, has given massive subsidies to their companies. So this is a globally competitive effort.

And it's really important to understand what what is this money going to be used for? First, it's going to help to incentivize manufacturing to [00:18:30] come to the United States. The cost difference from manufacturing either the US or Europe is about 30 to 40%. So it's just cheaper to do it in Asia. So how do we make sure that we are diversifying these supply chains and diversifying manufacturing? And it's giving incentive to companies to build here onshore. We at Intel have announced that we're building two new fabs. So for those of you who have probably never been to a fab, if you haven't seen it, actually watch it, there's a great 60 minute story with our CEO. [00:19:00] But a fab is 300 to 400 football fields large. It costs about \$10 to \$12 billion and three to four years to build. So this is a massive, massive set of investments that mostly will come from private capital. But to help make it economic, to make the economics more competitive, countries are also stepping in to help compete with those subsidies that countries around the world are offering.

Anja Manuel: Thank you. Last but not least, Representative McCaul. You have been really a [00:19:30] leader. You lead the China task force in the House. You have done a lot of work on semiconductors in particular. We talked a lot about how we feel vulnerable, but let me just say one word about the Chinese, there's been a lot of conversation, as you might imagine about Taiwan and China over the past day and a half. When I talk to the Chinese, they feel extraordinarily vulnerable, especially with respect to the semiconductor supply chain, because they consume about [00:20:00] 60% of the world's semiconductor chips that then get assembled, often re-exported, but they produce very little at home. So when Bruce was talking about these big subsidies, Made in China 2025, their goal is to achieve 40% self-reliance by 2020. They didn't achieve it. They only got to about 15%. So what did you find on the China task force that makes you worried for us, or should China be worried?

Mike McCaul: I [00:20:30] think we should be worried. And I think General Milley spoke yesterday and said that Communist China is the long-term greatest national security threat to the United States. And I agree with him. That was our assessment. COVID was a wake up call. I think Bruce laid it out really, and Elissa, and Chip as well. It woke everybody's eyes up to the fact that, my God, we're so dependent on them on medical, on rare earth minerals, and then the advanced semiconductor chip.

I introduced [00:21:00] this bill because working with the prior administration, it was called to my attention how important this issue is. As Bruce laid out, it's everything in your phone, but also our most advanced weapon systems. And we can't have a supply chain that's going to be compromised. We moved TSMC to Arizona. That was a good move. But they've been already compromised by the Chinese. If you look at Taiwan, South Korea, and then SMIC in China, they [00:21:30] corner about 85%, 80 to 85% of the market. And so we have to compete is the way we looked at it.

And so how do you do that? You have to incentivize now some would tell me, "Well, this is industrial based economics." After we introduce the CHIPS for America Act, interesting the way South Korea had their version, Europe had their version. So we're in this great global competition, great power competition. I was with the Taiwanese [00:22:00] ambassador last night at the residence talking about this very issue. We cannot allow these chips be compromised. And the only way you can do that is bring that manufacturing either to the United States by incentives, both tax incentives and a grant program, but also our allied nations. And if we can't do that, we're going to fail.

When you look at the hypersonic that was launched by China recently, it's frightening. [00:22:30] It surpasses our capability. Our missile defense systems cannot stop it. And the frightening thing is that it was built on the backbone of American technology. What we haven't given to them, they've stolen. And what they haven't stolen, we've sold to them. And so on the foreign affairs committee, we're going to be looking a lot at export control and be talking

about that as well. But I really think this is... The great thing about this bill, it's great for Americans, [00:23:00] our economy and jobs, but also protects our national security. And at a time of great toxicity in Washington, as you heard the previous panel talk about, Elissa and I can join together on this. And we were in the White House talking with the president, very supportive. This is probably the most bipartisan, bicameral piece of legislation. Because it transcends party politics and it's really what's best for the American people and our national security.

Anja Manuel: Thank you. So we've moved [00:23:30] to straight into solutions, which is good. Let me just stay on semiconductors for a minute, but then I really want to come back to all of the other critical issues here because it's not just semiconductors. So we've passed the CHIPS Act, a huge bipartisan victory. It's amazing. I've been writing about this for years. I was so happy when you got this done. \$40 billion for moving manufacturing to the US, around \$10 to \$12 billion [00:24:00] for research, R&D on these issues. So that's all fantastic. But if you look at the semiconductor industry, and this is really a question to any of you, that's a couple of months of capital spent in this incredibly capital intensive industry. How are we going to get... First of all, which fabs are we trying to move here? Because clearly we can't move everyone. And are they just the ones that need to go into the national security supply chain? Or is it really broader than that, one? And [00:24:30] two, how are you going to really incentivize the private sector to leverage that \$40 billion and give multiples more because we're not going to appropriate another \$40 billion next year for this? So I don't know who wants to take that softball.

Elissa Slotkin: I will just start only because we've started to have these very conversations in Michigan. Because it turns out that of course the military, particularly the Army, needs military vehicles. They need these chips that go into the vehicles, these legacy chips. And of course the autos need them. And [00:25:00] of course, tier one and tier two suppliers often need these chips. There was a ton of interest, and we've started to have our first meetings in Michigan combining and convening all of those folks to talk about investment, not just on a semiconductor, but making the coding around the chip, the piece that goes around the chip. Those are the kinds of things that I think where we're going to need industry and government to work together and to convene in groups of interest that may not have hung out together before, and may have actually competed for the same [00:25:30] chips. But it's gotten so dire, particularly on the legacy chips that control airbags and those kinds of things, that I think competitors are willing to come in the room just to make sure they have a plan on supply. So yes, \$40 billion maybe a smaller amount of money given the cost of these facilities, but I think it's using, as Mike was saying, using the bill and the sort of consciousness about the issue to convene actors that haven't actually been in a room together for a very long time.

Anja Manuel: Yeah. I'm [00:26:00] glad you said that. And that actually draws the distinction, again, between there's a short term supply issue here, which is boy, the world



supply chain got really messed up in the middle of COVID and so you have a short term issue getting legacy chips. But you have a long term issue... Building a new fab isn't going to solve that because that's going to take five or six years. Bruce, do you want to talk about that?

Bruce Andrews: Absolutely. You raised on a couple important points. Because this is a long-term issue. There's obviously a very important short-term issue that we've got to get through. [00:26:30] As we look at this, the shortages are going to last into next year, just because the challenges in the supply chain. But we're also looking at the future. Our CEO announced that we're going to invest at least \$25 billion and probably is going to go up from there per year. A huge chunk of that is on two new fabs in the United States, assuming the CHIPS Act gets passed. But also then we're looking to build in Europe as well. We pour a massive amount of money into R&D as well, just because this is so unbelievably important.

But the [00:27:00] money that the US government puts forward is very small fraction, but it is a force multiplier. And I think that's the important point. Because you raised the issue of, for example, secure supply chains for DOD and others. Those fabs, whatever DOD and any other US government consumption, is such a small percentage that you don't get the economies of scale just having a fab that does that. You really need to have that capacity in the United States and in a secure [00:27:30] way. So we, as a company, are very committed to this. We recognize that building this capacity is going to be a long term thing. I would point out, and I guess this is how the gods of the markets work, but we announced that we're going to make these massive investments and our stock dropped about 10% because the markets look at it and say, "Oh God, big capital investment." But this is, this is a play for the future. And this is one that is so important, not just to us at Intel as a company, but to the country overall.

Mike McCaul: [00:28:00] And to answer your question, we're not talking about the legacy chips. China already has that. And they have the IP and they can manufacture that easily. We're talking about the advanced semiconductor chips. These are down to the really small nanometer, that we have to be the leader. And we have to do it in a secure environment where it can't be compromised by our foreign adversaries. And so after the momentum started with the [00:28:30] CHIPS for America Act got passed on the NDAA, you started seeing companies like Intel investing for the future in the United States. Samsung, the same thing. There was a great response, I think, to the momentum. Yeah, you compare it to the trillion that China is now investing in digital economy, it is a drop in the bucket. But as Elissa said, very strong, bold statement, the United States is all in to compete. And I think long term, it's the investment [00:29:00] tax credits that will give the certainty in the marketplace to these manufacturers. And you're right, it'll take several years. But to your point, Bruce, your stock went down 10%? Short term loss for long term gain. And so I think it is investing in America and our ability to compete.

Anja Manuel: I want to come back to this because I think it's a really complex and not quite resolved issue, at least in my own mind. But I know the Department [00:29:30] of Commerce is going to be struggling with this once the money actually starts flowing. But let me go back to Chip for a second, because... Ironically, your name is Chip, but you're not talking about chips.

Chip Davis: Defer to the experts in that area.

Anja Manuel: Exactly. Because there's so many other important things here. Last year, the big issue was PPE. You said pharmaceuticals was actually fine. There's been a lot of talk in the political sphere about onshoring manufacturing. Would you support [00:30:00] any of that? And if so, for which pieces of the healthcare and pharmaceutical supply chain? Or do you think we can do it with the national stockpile?

Chip Davis: So no, to the last question in the short term. I think one of the things that we have to realize is that the shortages in the healthcare supply chain that were driven were unlike the shortages, particularly in the pharma space, and to be clear, there were shortages, we [00:30:30] were actually able to compensate for many of them. And 80% of the shortages, there was a secondary alternative available for that product in the United States. So again, I think a real positive reflection on the entire supply chain from manufacturer down to provider.

Interestingly enough, what I will say on the technology side is our members, our primary members being distributors, all based in the United States, geographically dispersed across the country, we have distribution centers in I believe 33 or 34 states. So in addition to being distributors, [00:31:00] they are increasingly data analytics and management firms as well. So they have the ability to collect all the data, look at the trends. And it's why when we, again, back to early days, had those hotspots in places like New York, New Jersey, and Connecticut, California, the Southeast, they were, within hours, able to take medicine from distribution centers in areas that yet to experience the high level of incidence rates at the early stages, move that product in, remember pop-up hospitals in parking lots and the [00:31:30] like. And actually our work with the government allowed for a lot of the regulatory burdens to be lowered temporarily to make sure that medicine got where it needed to. Particularly, as I said before, on pain and respiratory ailments. On the issue of manufacturing, it's clear, particularly in the generic space, as I said earlier, for decades, we've been trending in a direction that I think we want to be conscious about, at least having diligent efforts to try and bring some of that back.

Anja Manuel: Generic [crosstalk 00:31:59]?

Chip Davis: Generic medicines. [00:32:00] Well, it's more of a generic issue than a brand issue, just to be completely it. And it's really around the active pharmaceutical ingredients. There are a number of generic plants in the United States that do finished dose formulation. But to the comments that Congressman Slotkin was

making about propellant, very high percentage of active pharmaceutical ingredient is still coming from China. If we have that, God forbid, war and they turn that spigot off, think about the impact to those that'll be on the front line. So we have to address this. But as I said [00:32:30] earlier, it's going to take a period of time. At the same time we're trying to reconcile with healthcare costs that create incentives in the system to just have, as you said earlier, just-in-time inventory. Those two kind of conflicting pressures are going to have to be reconciled as we move forward.

Anja Manuel: And Chip, can I ask you specifically, are we worried about antibiotics? Are we worried about insulin? Are we worried about high level cancer drugs? And doesn't that supply chain go through India as well as China?

Chip Davis: It does. There's a number of Indian generic [00:33:00] manufacturers. I've traveled to India. I used to work in the generic industry. I've traveled to China. Interestingly enough, my wife is from New Jersey, people in New Jersey referred to it as the medicine capital of the world. I can assure you people in Beijing feel the same way. So I think one of the things that we have to do is recognize that while we've maintained our leadership in the R&D space, we've actually, from a manufacturing perspective, as I said, kind of let things go.

The place to start, really, is to identify, and credit to the FDA, they were doing this even pre- [00:33:30] COVID, but things have evolved as we shifted from a supply driven shortage to a demand driven shortage, a list of essential medicines. What are those things and where are the place is that the federal government and a public private partnership with everybody in the supply chain can identify our greatest vulnerabilities, and then to begin to create incentives for A, for that manufacturing to be increased, and B, for that increase to be reflected in whole or in part back here in the United States.

Anja Manuel: Do you want to jump in?

Elissa Slotkin: And I would a hundred percent agree because we looked at active pharmacy [00:34:00] ingredients as it relates to the Defense Department, and we were kind of stunned that we actually didn't see shortages. Can you imagine what would've happened if we had had a pandemic where every diabetic in the country was terrified that they weren't going to have insulin next month? And I already heard stories in my hometown of people who, in the middle of COVID dropped a vial of insulin and used the syringe to suck it up off the floor because they were scared, they didn't know what was going to happen.

So I think that [00:34:30] what's come out of that, both on active pharmaceuticals, but lots of things we're talking about, critical supplies, is there's definitely a spirit in the Indian government, the Pakistani government, lots of governments are saying, "Hey, we would love to have you diversify and come into our country. Leave China. Look at our manufacturing space." And I think what's what is an untapped area is kind of a coalition of countries looking

at mitigating risk together. Why [00:35:00] aren't the English speaking cousins, the UK, the Aussies, us, the Canadians, having those strategic conversations about, "Hey, we all have this vulnerability. Why don't we think about investing together? Why don't we think about approaching India or Pakistan together?" That is still an untapped space. And we among allies talk about everything. You can have a NATO meeting on anything. So why not have a conversation about supply chain?

Anja Manuel: That's a very good point. But when you say we in that sentence, are you [00:35:30] saying industry needs to get together and make their supply chain more resilient? Or is there an appetite for a CHIPS Act for the pharmaceutical industry, for example? And if we go that way, at what point are we going to... You're going to run politically into people saying, "Why are there all these corporate handouts?"

Elissa Slotkin: Well, I will just say, we just had in the House armed services, the first visit of the UK defense committee. So the UK parliamentarians came over and they were [00:36:00] very interested in having strategic conversations about getting together and thinking about their military, our military, and where we may want to incentivize things. I think for sure in the private sector, but I would go a step further and say that the public sector, that the governments need to be having these conversations.

Mike McCaul: Yeah. I think if successful, and I think it will be, the CHIPS for America Act could apply to all critical supply chains in the national interest. So the president signed an executive [00:36:30] order to direct the Department of Defense to come up with a list of what supply chains are in the national interest. And I think this model really could apply to all of those. And I think to Elissa's point, we have to join with our allies on this. This is a geopolitical issue. And the Quad's important as well. So India, Japan, Australia, our NATO allies, all looking at the threat coming out of China right now.

[00:37:00] If I can just give you a little background, not to be long, in 1997, I was at the Department of Justice here, and I prosecuted the Johnny Chung case. And it led us to the fact, through his cooperation, the director of Chinese intelligence and China aerospace were working to put money in his Hong Kong bank account to influence the presidential election. Not the first time a foreign power's tried to do that. But when we found out-

Anja Manuel: I think our FEC just said, that's okay yesterday.

Mike McCaul: Yeah, right. So [00:37:30] why were they doing that? They wanted to get in the WTO. They wanted tech transfers. And that was 1997. The amount of technology that's been transferred to China, again, on the backbone of American technology, is astounding. And the IP theft to get where they are today. Is astounding. And then we sell it to them. So we have to sort of look at this differently. We can't prop them up. And you go back to the hypersonic.

[00:38:00] The fact that there was American made technology in that hypersonic that is a direct threat now to the homeland and to the world for that matter. So we've really got to start looking at tech transfers, export controls, capital flows that lift up that.

And so the battle's really between Department of Defense, Department of Commerce. Commerce more from industry standpoint, Defense more from security. And we got to find a way to collaborate between Commerce and Defense. So the entities list that comes [00:38:30] out of DOD, when you look at Department of Commerce, it doesn't jive, the two don't come together. And so we've really got to start looking at how does DOD and Commerce really work together so that we're not building up their technology base that we've done, really, since that case I prosecuted in 1997.

Anja Manuel:

Yep. I'm so glad you raised that. Because so far when we've been talking about solutions, we've been talking about what I call the positive offensive piece. What are we going to do to build ourselves [00:39:00] up? But of course there's a defensive piece which started under the Trump administration, has really continued under the Biden administration, which is exactly what you said, it's restrict Chinese investment in high tech areas that might be sensitive, have more stringent export controls going out. All of that's happening. I would say when I... I live out in California. I talk a lot to industry in Silicon valley. What I would hear from them [00:39:30] is yes, that's important. Of course we want to stay several generations ahead of China on chips and everything else. But, industry would say, and I don't know, Bruce, if you would agree, but these days, there export controls have become so stringent that the stuff we sell that's 1990s technology to China, that's way behind, that then brings back in the money that funds the R&D for us to stay in the lead on [00:40:00] chips and on lots of other areas, we're not getting that money in. And so I don't know if Representative Slotkin or McCaul or anyone wants to chime in on that. Is there a point where we're going too far?

Mike McCaul:

Bruce, he's the industry perspective, I'm more security. But look, China's a big market. The legacy technology that they already have or they've stolen, my concern is the cutting edge and keeping that out of their hands. I live in Austin, [00:40:30] Texas. I represent a lot of high tech giants. And so I get that point of view. But I also want to incentivize the expansion in the United States of what's really critical to our national security. The stuff that they already have, they have that, and I get that from the industry standpoint. But that's why CHIPS was introduced primarily as a national security issue. And again, Intel's taken a lead on this, Samsung. They're all expanding right now in the United States.

[00:41:00] And as you look at export control, yeah, I know the technology companies don't really like those. But I think we need to wake up to... For instance, BIS within Commerce, we have jurisdiction over, the Bureau of Industry and Security. We got a list, they've only denied 1% of the licenses from this country into SMIC and into Huawei. And in the last six months-

Anja Manuel: SMIC, which is a Chinese semiconductor firm.

Mike McCaul: Yeah. And so in the last six months alone, [00:41:30] we've invested \$40 billion in SMIC from the United States and \$60 billion into Huawei. To me, there's something wrong with that.

Anja Manuel: You mean we've invested or we have sent exports to?

Mike McCaul: Licenses have been approved and to the tune of \$40 billion for SMIC, \$60 billion for Huawei, all from the United States.

Anja Manuel: Bruce or Representative Slotkin?

Bruce Andrews: So look, export controls are [00:42:00] a remarkably important tool. They protect IP, they protect US national security. I think everybody in industry understands how important this is. And I think to the Congressman's point, because I think we have a level of agreement here, that's finding the appropriate balance. How do you strike export controls in a way that in one way protects all of this IP and doesn't result in particularly dual use technologies or anything with a military application, but the flip side to it is, [00:42:30] and this is the important part is how do we also make sure that we're not unilaterally handicapping American companies? So it's striking that balance. When I was at the Department of Commerce, I have the scars to show from five JCCTs where we were fighting with the Chinese government about trying to get more access for US companies to sell into the Chinese market. I think we actually all agree that US companies being able to be in a market that has been very restrictive of US products over the course of time is important.

Now, then there's this the need [00:43:00] to strike the balance to protect US IP and for dual use national security products. And so from our perspective, it's how do we make sure A, that the point you made, Anja, is very important, it's the revenues that come out of China do fund activity here in the United States, whether it's R&D, whether it's the \$10 billion dollars we're about to spend in Arizona on a new fab. And then also making sure that we're not unilaterally basically handing the market to our foreign competitors. [00:43:30] Because often US companies have to comply with export control restrictions that other countries may not put on their own businesses. So we're in a competition essentially that if we are unilaterally handicapped, but the Koreans or the Taiwanese or whoever else don't do it and don't participate and coordinate with US government. So looking to make sure that export controls are multilateral rather than just put on US companies alone is something that's very important.

Anja Manuel: [00:44:00] Yeah. And I know that the White House and others are working on exactly that. I don't know, Representative Slotkin, do you want to jump in on the export control piece? Because of course it's important for all of the defense supply chain.

Elissa Slotkin: Yeah. Bruce is really the expert on this. I think what we heard very loud and clear from industry, certainly in our task force, is that we need to have some guiding principles on export controls that reflect this balance that Bruce is talking about. Likewise, we heard quite a bit about Chinese capital [00:44:30] coming into Silicon valley funding. A lot of our newest latest and greatest technology that we are then interested from the Defense Department in incorporating into our package. There has to be a framework. And I think being transparent about that would be helpful to industry so at least they know kind of the rules of the road.

Anja Manuel: Mike Brown, who's sitting in the audience, is going to be talking about that in a minute. I think you wrote the seminal paper on it. Great. Well, I want the audience to start thinking about whether you have any specific [00:45:00] questions here. But before that, let me just turn back one more time to, beyond chips, we haven't yet talked really about all of the other things in Biden's executive order. They're really broad. They count electric vehicle batteries as a critical supply chain. They count rare earths. They count the transportation infrastructure. So my question to whoever wants to take it is are we being over broad in defining supply chain as a national [00:45:30] security issue?

Mike McCaul: Well, where do the rare earth minerals come from?

Anja Manuel: That's a very [crosstalk 00:45:35].

Mike McCaul: Primarily Latin America and Africa. China's Belt and Road Initiative has basically, I think, raped those natural resources. They've hoarded, cornered the market. And they make those batteries in China. They also cornered the market on solar panels as well. And when you look at where lot of that's manufactured as well, and this hasn't been talked about, from a human rights standpoint, in the Xinjiang province, where they're currently committing [00:46:00] genocide on the backs of slave labor with the Uyghur Muslims. And we're not really talking about that issue a whole lot. And to me, that should be the national conscience. That's a moral issue to me. So I think breaking that... Tesla's in Austin. So those batteries, think about that, they're coming from China. We've got to, on rare earth minerals, start competing with China Belt and Road in Latin America and Africa. We're not going to be able to do that here. [00:46:30] We have too many regulations in this country. But we got to start looking at that competition as well.

Anja Manuel: Just to put a finer point on it, are you saying we shouldn't buy solar panels from China and we shouldn't buy electric vehicle batteries from China? Should that manufacturing come home? And should it do so even if we need huge subsidies for it?

Mike McCaul: Well, if you talk to Elon Musk price, it's cheaper to buy from China. But do we want manufacturing the United States or we want to help China out? And [00:47:00] again, there's a moral question here that we're buying this

technology on the backs of slave labor. And I think that's a debate that this country needs to be talking about.

Elissa Slotkin: I also think that I don't think we're being overly broad to just do a serious deep dive after a global pandemic on our supply chains. And it turns out, we are talking about kind of the big critical items that sort of every average citizen can see, but I think certainly the auto industry realized there might be [00:47:30] one widget that's critical to finishing a car that's made by a mom and pop, and that mom and pop shop goes down, you can't sell the car off the lot. So I think that's why transparency and using this moment is really important.

I will say though, because I'm a defense nerd, like many people out there, and defense nerds really focus on the military side of the equation when we're thinking about China. And that's obviously the preeminent concern. But the truth is we need a more integrated way to look at these threats. [00:48:00] Why is China so ahead of us on electric vehicles and batteries? Because they're dependent on foreign oil and they know that if they've got to power their economy, they've got to get ships in and out with oil. I think the moment has come for us to realize that while we may not study supply chains in our masters programs when you're going into national security, you got to get smart on the other factors that affect the possibility of us going to war or escalating into war. So [00:48:30] I think it may not be sexy quite yet, but I think that the next generation, particularly of national security nerds, should really be thinking about integrating our focus on hard security with all the other pieces of economic security that we have left largely to their own devices for 30 years.

Anja Manuel: I think that's such an important point. I'm a member of multiple Taiwan, China study groups. And it was only about two years ago after I kept saying, "Oh, [00:49:00] by the way, it's about TSMC. It's about the chips," that people in the national security space took notice. But boy, have we all taken notice.

Elissa Slotkin: Right. And we're all... I was concerned, and I have the Secretary of Agriculture in my district, and I said, "China and the chips and all our farmers depend on the John Deere needs that 14 cent microchip too." So our farmers were concerned about this and I was talking about my concern about potential escalation with China. And he's like, "Remember, they depend on 30% of their food from the United [00:49:30] States." As a national security nerd, I hadn't been focused on how much they import our food. But those are the kinds of things we need to integrate in order to have a real assessment of where we're going with China.

Anja Manuel: Right. And there's a tendency to see China as 10 feet tall, especially when we're talking at conferences like this. But they're working on their own vulnerabilities.

Chip Davis: I also think the one thing I would just add to that is that to the issue of taking such a broad swathe, it's going to expose the vulnerabilities that then allow us to force [00:50:00] rank them, if it's done correctly. So not all urgencies are equal. And so I think one of the things that we'll have to do as we look at it is



take and look at these key sectors that we've been talking about and begin to prioritize where the greatest risks are in the shortest amount of time. And I think that in those areas, what we're going to need to do, and I think COVID gave us some experience with taking the importance of public private partnerships.

In the early days of COVID, we were getting on phone calls with [00:50:30] the FEMA control tower three times a day. What we realized about 10 days into this, is that primarily those conversations were one way. They were telling us what they needed and that was critically important. But we ultimately had to have a conversation and say, "Now let us tell you what we need." And as soon as it became a two-way conversation, things got to be better immediately. So I actually think the combination of having honest discussions around an industrial policy framework, combined with a national [00:51:00] security framework, and making sure those two things are running in parallel, very closely tied and tethered together, is going to be what the most significant impact as soon as we begin to force rank those issues of exposure.

Anja Manuel: That's an important point, communicating both ways. Just because this group is going to be less steeped in the medical and pharmaceutical supply chain, for you, what are the most critical issues?

Chip Davis: So I think the thing that we say with our members at HDA coming out of COVID, we adhere to the three [00:51:30] Cs that we've learned, which was communication, coordination, and collaboration. The communication I just talked about and making sure that not only were we communicating effectively in real time with the government, but making sure that government entities at the federal and state level were communicating. Because I can tell you, we were getting incoming from governor's offices that was completely inconsistent with what FEMA was telling us. So there's an after action item for us to get that right.

The coordination is something that I think already existed within the supply chain. I referenced it a couple of times, think front end manufacturers, frontline providers. [00:52:00] And we're sort of the nexus or the inner spoke between them, connecting over a thousand manufacturers to almost 200,000 providers. So I think making sure that the, the value of those partnerships is understood by a larger audience and we don't do anything to unintentionally disrupt them.

And then the last one, interestingly enough in a moment of a pandemic, and it also applies in natural disasters, is collaboration. Like many sectors, including technology, uberly competitive industry. And what I'm probably most proud of, and I literally just joined this industry a week before [00:52:30] COVID hit the shores of the United States so it was a little bit of an interesting assimilation and onboarding for me, but what I saw was people checked their competitive interests upfront and said, "How are we going to play our role in managing this and ensuring the resiliency of that pharma supply chain and then begin to play a more active role?" At HDA, our mission has expanded since COVID not just

within the pharma supply chain, but to address issues related to med surg, which historically we didn't do before. And so I think it really shined a light back to vulnerabilities of things that we [00:53:00] can't let happen again.

Simple example, and I'll leave you with this, is generally speaking within the strategic national stockpile, there's [inaudible 00:53:07] in the thinking that we have to have about 28 days of reserve ready to go, that's not going to cut it moving forward. We have to be realistic and have a conversation about that number being closer to six months.

Anja Manuel: You mean we need more?

Chip Davis: Yeah.

Anja Manuel: Six months.

Chip Davis: Yeah. And there's recognition that you can leverage that geographic diversity of the private sector that I referenced earlier to help manage it to an even greater degree than was done previously.

Elissa Slotkin: Yeah. We just did a whole series of [00:53:30] legislation, bipartisan that passed on voice vote, on revamping the stockpile. I think anyone who was on the receiving end, where we got way less than we thought we were going to get, expired masks, in Michigan, we got some moldy stuff that came to us. It just was not ready for the pandemic. I would just put down as a marker, not to discuss here, but the other supply chain that no one talked about that we were by the grace of God we can still feed ourselves in this country, our food supply chain. And the psychological impact, [00:54:00] if we had walked into a grocery store and instead of no toilet paper, there was no protein, there was no meat, there was no agricultural products. People's psychology would've been totally different. And it is by chance, not by design, that we can still totally feed ourselves. And I think I've become way more interested in our food supply chain as well in addition to all these others.

Anja Manuel: It's a very important point. Let me now turn to the audience and see if anyone has any questions. Yes. There's two in the front. Erica, or you go first.

Rachel: Hi, you all. Thank you [00:54:30] guys for joining us today. My name is Rachel. I'm curious for the two congressional members here how you guys bring things like global supply chain back home, especially to some of your more rural areas in your districts. I have been type one diabetic for 17 years, so I'm no stranger to the panic that fills you when not only can you not afford the insulin that my insulin pump takes, but your insulin pump supplies and your blood sugar test strips. So how do you bring those home and make them tangible for folks outside of things like insulin [00:55:00] and sort of these microchips and in your factories back in Michigan?

Elissa Slotkin: Why don't you go ahead, Mike?

Mike McCaul: Well, yeah, nobody was talking about this before COVID. I was looking at semiconductor for a long time, and I know Bruce and Intel, and Elissa talked about agriculture. But really, COVID is the eyeopening experience that if you're talking about just rank and file constituents back home, that woke them up. And I think it was really the, hoard on the medical supply [00:55:30] that happened in China with the masks. That was a very tangible experience of people back home, they could see the impact that it was having on them personally. And that really woke up the American people. And it gives us the opportunity, I think, to have this debate and dialogue and discussion about what is important in our national interest supply wise that we need to start looking at decoupling out of China to our allies and to the United States? And again, rare [00:56:00] earth minerals, medical, advanced semiconductor chips. We're waiting for that executive order to be complied with to identify all supply chains that are in our national interest and really focus on that.

Elissa Slotkin: Yeah. And I would just say, it's not hard to bring it home to the district because the district is... The people in the district are the ones who are screaming the loudest about these problems. I represent, like I said, two UAW plants where for the majority of the last five months, they have not been able to work because they can't get a microchip [00:56:30] in. So that's as real as it gets when you're a family of four and you depend on that auto worker and he's not working. The insulin issues, the pharmaceutical issues, long before supply chain was the issue, that was the number one thing that people were coming up to me in the grocery store saying, "I can't send my daughter to summer camp because they require four inhalers and I can't afford the inhalers." So I think it has shone a light on these things. And especially in the intersection of supply chain issues [00:57:00] plus price, you don't have to have us communicating down to the district. We are hearing that loud and clear from our constituents.

Anja Manuel: Right. Absolutely. Erica.

Erica: Hi. That actually leads into my next question. With the effort that the United States government and private industry is exerting to bring microchip manufacturing to the United States, should the American public be prepared to pay more money for goods and services that utilize these chips in the future? [00:57:30] How do you prepare the American public for this possibility?

Mike McCaul: Bruce, [crosstalk 00:57:38]?

Elissa Slotkin: Bruce, are you going to charge us more?

Bruce Andrews: So look, this is a globally competitive industry. So there is price pressure, obviously, with shortages and all the challenges with these inputs. But look, our goal is to be making the best chips in the world and being price competitive with all of our competitors. And so I do think the level of competition brings

[00:58:00] things down. We're in a global market, so it's not just what happens here or anywhere else. It has been a challenge though with the disruptions to our supply chains and the challenges we face getting some of the inputs, whether that's rare earth or substrate, some of the other things that we do. But I think the benefit of being in a globally competitive market is we have plenty of price pressure, what we compete on is making the best product in the world. And that's what Intel is set out and dedicated to doing.

Anja Manuel: Great. I think we have time for one more question. The lady in the back.

Jane Lee: [00:58:30] Thanks so much for a great panel. I'm with Rebellion Defense. My name is Jane Lee, but I recently came from the Hill two weeks ago. I worked for a leadership office as well as Senate appropriations. The CHIP Act was definitely a great achievement, but now it has to be fully funded. NDAA is stalled. The Endless Frontier bill needs more work as it conferences with [00:59:00] the House. This is also the first year that I'm very concerned about a full year defense appropriations bill, a CR. So as we go into an election year, what are the venues for bipartisan work? Are you concerned at all as we go into a divisive election year?

Mike McCaul: So that's a great question. What is the state of play in the Congress on CHIPS? We got it authorized on the National Defense Authorization. As you know, Endless Frontiers, \$52 billion for the Commerce [00:59:30] Department grant program, and then the investment tax credit, Wyden and Crapo have included, probably included in reconciliation is my guess. So you'll have that tax incentive and then you'll have the grant program that I assume... I think the grant program's probably going to pass on a CR or omnibus, but we could have a conference committee with House and Senate on Endless Frontiers. We just don't know yet. But I feel very confident these measures [01:00:00] are going to pass and it's going to have long term benefits.

The only thing missing that was not in these items that was in the CHIPS for America Act, number one, there's no R&D investment. There was a lot of R&D investment in the CHIPS for America Act. What came out of the Wyden proposal has no monies for research and development tax credits. And I think that's important and we [01:00:30] need to look at putting that in. Secondly, there really aren't... In my judgment, the guardrails are not sufficient. And what do I mean by that? We need to have enough guardrails to make sure that this money, the taxpayer's money is not going to be awarded to a recipient that's going to turn around and invest that in China. And that was in my bill, but I'm not seeing it with this Endless Frontiers package or the investment tax credit that I think [01:01:00] is very important to our national security.

Anja Manuel: Thank you. We'll have to leave it there, unfortunately. Really important issues. It's an enormous topic that the national security community is just waking up to. And I would say on a note of optimism, it's also an enormously bipartisan issue. I don't see a huge difference between Democrats and Republicans on the Hill, or

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frankly between the Biden administration or the Trump administration on these issues. So something for us all to work on together. Thank you all very much.

Mike McCaul: That was great.

Anja Manuel: [01:02:00] Okay. Oh, ladies and gentlemen, Senator Sasse will be up on stage in just a moment. We changed the program slightly to accommodate voting schedules, so [01:02:30] he'll be here in a moment.