**Ylli:** 0:00.

In terms of US versus China, did they have a centrally pushed policy to invest and get ahead in AI? Yes, they did. It's a public strategy that they had. Where they're organized for that competition. Yes, they were just because they have a different political system. They can drive their private sector in this competition because there's a similar fusion that they have. Did they put enormous resources behind this? They did. Did they appoint national AI champions to serve as the companies that will propagate and advance the CCP agenda globally? Yes, they did. We all know that, and so I think in some aspects, the pre GenAI period, they were moving fast. We have to get ourselves organized, we have to finance ourselves, put enough resources. I think CHIPS Act is one of the elements I think towards that end.

**Craig:** 0:46

Hi, my name is Craig Smith, and this is Eye on AI. In this episode, I sit down with Ylli Bajraktari, executive Director of the Special Competitive Studies Project, which is a follow-on organization to the National Security Commission on AI focused on maintaining the US lead in AI. Ylli provides invaluable insights into the current state of the AI race between the US and China, discussing the implications of the latest advancements in generative AI. He also sheds light on the so-called Offset-X strategy, the National Plan for Microelectronics and the upcoming Special Competitive Studies Project AI Expo in Washington DC in May. Join us for an in-depth look at the critical role AI plays in shaping our national security. I hope you find the conversation as important as I did.

**Craig:** 1:52

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**Craig:** 3:02

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**Craig:** 3:06

I'm here at the special competitive studies project with Ylli Bajraktari. It's a follow-on organization from the National Security Commission on AI, which Ylli was also the executive director of. Ylli, maybe we can start just by explaining the project, how it originated, I know the story of the Rockefeller project with Kissinger, but if you could give that and then we'll start talking about what you guys do.

**Ylli:** 4:18

Absolutely and thanks for hosting us on your podcast. I mean, as I've told you many, many times, we are big fans of your podcast. I mean, you're one of the first supporters of our work with NSCAI and we had an amazing series with you, so truly appreciate it. And it's a unique podcast, just so you know, as I told you before, because it's more specialized about AI and you have incredible guests. So it's an honor to be on your show. The origins of the Special Competitive Studies Project, or the SCSP, really go back towards the end of the commissions work. At that point Eric was writing a book with Dr. Kissinger on the age of AI and Dr. Kissinger spoke fondly about a project he led in the 50s called Special Studies Project. I didn't know much about the Special Studies Project. It's you know 1950s, not much you can find online. But, as you noted, Rockefeller Brothers Fund back in the 50s thought that we are at the turning point in the history in which you know we're facing a competitor in Soviet Union. Obviously, the word competition and competitor was not used back in the 50s, more like adversary and so they thought that we still have not created a framework or a vision for how we should address that competition. I mean, and this was a battle of systems when you look at, in the 50s, it was a communist system versus a democratic system, and I think the outcome was still unpredictable. Who's going to win at that point? So I think Rockefeller Brothers Fund funded a project that Dr. Kissinger led called Special Studies Project, and over the course of three years they brought some of the most thoughtful leaders we had in the 50s from private sector, academia, and government to think about how do we get ourselves organized first, how do we get our society organized, how do we build our military to face such a competitor, and then, how do we bring our allies and partners around the world to believe in the system values that we were projecting versus what the Soviet Union was projecting. And so, Dr. Kissinger late Dr. Kissinger now, in the summer of 2021, talked to Eric about relaunching that initiative.

**Ylli:** 6:25

I had initial conversation with Eric about this and when you think about it in 2021, same with the establishing of NSCAI we were really at the crossroad of the beginning of this AI revolution, but also a changing geopolitical world order. And so I thought we were positioned in a really unique place to create a Special Competitive Studies Project. I added competitive in the title because I called my old boss and mentor, Bob Work and I said, hey, I'm thinking about launching this project. Eric is really interested. Would you join? First of all, what do think about the project?

**Ylli:** 7:08

And he said you've got to add competition in the title because we're in competition with China, and in competition with China, you either win or lose, and you're familiar with Bob Work. You hosted him numerous times on your show. He's a really thoughtful leader when it comes to grand strategy, China competition, and AI. And so obviously I listened to him, and we added C in our title to make it a little bit different from the project in the 50s. And so, with that in mind, we created SCSP.

**Ylli:** 7:41

Initially, the conversations with Eric were that we were focused on a three-year project, just because in my mind and I think in Eric's mind, is, if we are here in March of 25, 26, and we're still talking about the same topics that you and I have talked many times on your podcast.

**Ylli:** 7:54

I think we might be risking of falling behind China. Now, you see also a convergence of what we call the axes of disruptors China, Russia, Iran, and North Korea against the democratic block, and I think the challenge in 25, 20, 30 timeframe is much, much higher of a conflict that could come between these two systems of thoughts, of political systems, and beliefs, and so I think SCSP could play a vital role there in terms of, like, how do we get ourself organized, how do we, you know, increase awareness of what's going on and play a role like they did in the 50s, in which, you know, when they published their book, which sold 400,000 copies and it's really difficult to find it called Prospect for America, you know they educated and informed American citizens, obviously, of what we were facing against in terms of Soviet Union challenge, and I think that then got ourselves organized from the 50s to the end of the Cold War, where we ultimately won. And so that's sort of like the origins of SCSP Greg, but happy to answer any questions.

**Craig:** 9:08

Yeah, and you’ve come out with a series of reports, and my understanding is your audience is really the legislative branch and the executive branch, right? You’re trying to influence policy, and I know shortly after the end of the National Security Commission there was the CHIPS Act, which I don't know the inner workings, but it sounded like it came right out of the NSCAI's final report. So, can you talk about how that pipeline gets implemented?

**Ylli:** 9:44

Yeah. So, first of all, let me talk about the NSCI. When you go back in 2018, when I think the legislation got passed for the creation of NSCI, I think you know, in 2018, the issue of AI and the geopolitical competition was not on everyone's mind probably, um, and so I think what I give congress credit to is, um, they were getting signals a, from private sector, that there's a powerful technology coming that you have covered for such a long time, and that, b China, our competitor, our main competitor uh, really is putting all the resources, all sort of like the energy, behind this technology, because at that time, they came up with this strategy that they wanted to be the global AI power by 2030. And so, I think, with these two factors in mind, congress created the commission. I also think it's the first time that, in absence of our federal government having a clear strategy on a specific technology, congress stepped in to fill that void, and I think they do this with commissions, as you know, occasionally and so I think we stepped into a space in which was number one, highly bipartisan. You know the CHIPS Act, but like, when you put technology competition in China, there's a huge bipartisan support in Congress because I think there's a wide recognition that failure to, uh, stay behind in this technology could have consequential impact for our society and our economy and ultimately, national security, and so I think the NSCI really moved into that space. We were lucky and fortunate that Congress appointed 15 individuals with a huge difference in their background. That, I think, benefited us as a staff at that point, but also when we were going around departments and agencies and looking at what they were doing with AI and what do they need to do more. I think these individuals really stepped forward to serve the country. I don't think that gets much credited in today's environment, to be honest with you, but having some of the top technology leaders, some of the top academic leaders and some of the top former government officials looking at what can we do more for our country in this competition, I think that would deserve much bigger praise.

**Ylli:** 12:06

In terms of the audience our job with NSCI was pretty straightforward. We had to provide Congress with recommendations on how do we maintain global AI leadership for national security purposes and I'd like to underscore the national security piece here because the commission was not. What can we do with AI in terms of our education and our society and our healthcare. You know, the commission was tasked by the armed services community on the Hill, so the number one customer were the armed services agencies and the intelligence community, and so we had a really narrow focus.

**Ylli:** 12:37

What we tried to do with SCSP from the beginning, Craig, is that we take more of a whole of nation approach, and so we have a team that is focused on the economic impact of AI. We have a team that is focused on, you know, what are the next generation of technologies that we have to stay ahead. We cover the impact on education, impact on workforce, some of the topics that were not included during the NSCI work, in terms of audience. You're right, obviously, Congress is a major piece of who we try to inform.

**Ylli:** 13:13

We also work with all the departments and agencies in Washington and, more broadly, with governors and state levels and anybody else, because, as I said, we try to take a different approach with SCSP, like more of a whole of nation. If you and I believe that AI is a transformative technology or once in a generation technology, then I think this is more than just a national security challenge or opportunity we have. We have to take a more of a holistic, whole of nation transformation approach to this. And so, with SCSP, we take more of that approach. We spend a lot of time, you know, at the state, local level. We spend much more time with allies and partners. And so we try to like, we try to analyze, like, what are some of the implications and what are some of the huge opportunities AI will have for across, you know, domains from economy and society and national security.

**Craig:** 14:05

Right, let's talk about some of the specific reports and recommendations. You came out with this Offset-X strategy, which is sort of a reference to the Third Offset strategy under Ash Carter, I think it was.

**Ylli:** 14:24

And Bob Work.

**Craig:** 14:24

What's that?

**Ylli:** 14:25

And Bob Work

**Craig:** 14:26

I'm sorry. Yeah, Bob was kind of the driver and that's as you just said, you're really focused on the competition with China. I'm curious you guys look at China closely, you track it. There has been a debate about how advanced China is. There was this Australian think tank that came out and said China's ahead in, I don't remember 33 of 47 categories or something. I'm sure you know Jeffrey Ding at George Washington here in DC. His argument is that you can't look at those top-line numbers. You have to look at, you know, which are patents and papers and funding. You have to look at the diffusion, as he calls it, of AI into the economy and that if you look at, through that lens, the US remains far ahead of China. And he argues that there's a certain amount of hype around the China threat in order to get policy passed. So, you guys look at this?

**Ylli:** 15:42

Yeah, absolutely. So, you raised a lot of questions there. You started with Offset-X which I can come back later if you want, Craig but in terms of US versus China, so we have looked into this for a while now and there's a pre GenAI period probably and there's, I think, post-gen AI period, which I think people sometimes, as you know, mix both, what AI and Gen AI is.

**Ylli:** 16:07

The first interim report we published with NSCI, which was a requirement from Congress, we came up explicitly saying that you know we are ahead by maybe two years, but they're catching up fast. And so, I think that was our first judgment that we made with NSCI, and I think our thinking there was similar to what you mentioned, Jeff Ding and everybody else talking about. It's not just the level of investment, it's the application, adoption, people, hardware. There are numerous factors you can compare here and sometimes, as you know, this is not like an apples-to-apples analysis just because they have a different system, and we have a different system. But when you look at it, on just some high-level themes, did they have a centrally pushed policy to invest and get ahead in AI? Yes, they did. It's a public strategy that they had where they organized for that competition competition? Yes, they were. Just because they have a different political system, they can drive their private sector in this competition because there's a similar fusion that they have. Did they put enormous resources behind this? They did. Did they appoint national AI champions to serve as the companies that will propagate and advance? Or, like the CCP agenda, globally? Yes, they did.

**Ylli:** 17:30

We all know that I mean, and so I think in some aspects, the pre-gen AI period. They were moving fast, and I think that was the concern that led Congress to create NSCI, because all the signals coming out of Beijing were that they have taken this technology so seriously. And I didn't mention data, I didn't mention the application that we have seen against the minority population. They have done the use of surveillance cameras and all those things. So, all these, like small tactical elements, when you add them at the strategic level, was a source of concern for our country I think, so that's one.

**Ylli:** 18:07

The second thing I would argue is um, um is that, as you know, this is a dual-purpose technology. So, I think like, you cannot in isolation say oh, let them get ahead in AI because we are leading in other elements of the technology competition. I believe, because AI is more akin to a general-purpose technology. You cannot have your main competitor, who also is a completely different political system, get ahead in that space, and so that's why I think the concern was in 18, 19, and 20, is that, with those elements in mind and those signals coming out of Beijing, we have to get ourselves organized, we have to finance ourselves, put enough resources. I think CHIPS Act is one of the elements, I think, towards that end. So that's one thing.

**Ylli:** 19:00

Post GenAI, I think it's a little bit different conversation. First, because most of the, I think, best models came out of US companies' number one. So, there's an advantage there that I think we have. Secondly is that a lot of these models, as you know, need a lot of data to be trained, and the internet is 60% in English and I think it's 2% to 5% in Mandarin, if I'm not mistaken, and so the training of these models requires a lot of data in your native language, and I think that's what probably holds China back in some elements. Third is, we placed a lot of controls on cutting-edge chips, which I think makes Chinese companies really difficult to get to these models without having access to these cutting-edge chips, and you're familiar with the export controls we placed on high-end chips.

**Ylli:** 19:52

And then the last element here is that we live in a democracy. You can easily prompt these models to say something about you or me, or political system or political leadership, and they'll do it so long you know you're not offending somebody or you're not seeking to use it for malign purposes. As you know, you can't do this in China, and I think that will hold China back in, probably, these models, because they'll probably have to place much more or heavier control on the models, and these models get better and better by using them, as you know. So, I think Gen AI gives you a different picture. Will this stop China? I don't think so because, as you know, they understand that this is a critical technology. Are they going to seek a different architecture, to go after different AI models and take a pass on Gen AI competition? Probably, because I think there are multiple ways here to get to the next generation of AI models. But I think right now, with these models being released from primarily US companies, you can make, I think, a serious bet that we are definitely ahead in two to three years time.

**Craig:** 21:05

Yeah, and on the GenAI, it’s interesting, the idea that they’ll maybe will take a pass on that, but already the technology of the research is moving beyond large language models into multimodal models, …

**Ylli:** 21:21

Exactly.

**Craig:** 21:03

combinations of LLMs and—

**Ylli:** 21:24

Video and audio.

**Craig:** 21:25

Yeah, language, I mean large visual models. DeepMind has some amazing work out and OpenAI just came out with Sora, which people look at as, kind of entertainment, but there is the kernel of AGI in there.

**Ylli:** 21:04

Yea

**Craig:** 21:47

So, things are moving so fast. How do you guys keep up with that? How do you keep Congress and the executive branch and work with them to keep them at the leading edge, because governments everywhere are notoriously slow?

**Ylli:** 22:02

Yeah Well, I mean, I think the release of ChatGPT really gave us a new momentum. And then you know this I mean, all of a sudden, you know, everybody started to talk about AI. People are using these models now and we're facing probably a phase which I think in the next three years we're going to live in, this co-piloting phase, where you know everything we do is with these models. So, I think the conversation has changed dramatically, Greg, as you know, from like 2019 and 20, because now AI has become mainstream and so, to a certain degree, this is no longer a difficult space to explain to people what it means. Because I think, if you look at just the, in the last four months, what has happened in this space? You have the White House releasing the White House executive order on AI. It's probably one of the longest EOs you have ever seen, and I think that is a demonstration of how seriously the White House has taken this technology. I can never recall I cannot recall a technology that we have released such a deep and thorough executive order to all the departments and agencies. So that's one. You have a massive effort on the congressional side, led by four senators Senator Schumer, senator Young, senator Heinrich and Senator Rounds that have organized hearings after hearings, called the AI Insight Forum, in educating members of Congress and Senate about AI from all aspects of our lives. You had civil rights leaders, you have technology leaders, you had national security leaders really coming in front of senators explaining the implications of Gen AI for our country. On our allies and partners side, you have the EU AI Act that was passed a month ago or two months ago, so just in the last four months you have this enormous activity on the policy side of trying to get ahead on a technology that is moving so fast, as you know, and so we will always face that challenge, like how do you stay ahead on a technology that constantly changes? New models are released and then you have the open-source path, you have the proprietary models path, but I think, from the awareness perspective, I think everybody's aware this is moving and there are efforts to understand how do we stay ahead, how do you get organized to stay ahead.

**Ylli:** 24:41

Because I think, if you look at our government institutions, they are built after World War II with the 1947 Act. So, I usually use the example of Department of Commerce. If you look at our, key elements of our competition with China reside within Department of Commerce, but that Department of Commerce was built for the Cold War competition, and now we're in this techno-economic competition with China. So, do we have to reform institutions? Do you need to create new ones?

**Ylli:** 25:11

After 9-11, we created a range of institutions. We use the example that even at the White House, you need a different constellation of um councils, uh, to go after the technology competition. I think I used this example in the past, but after World War II, we created the National Security Council of the White House because security was the predominant domain of competition between us and Soviet Union. After the cold war ended, we created the National Economic Council because the economy became you know, as part of that globalizing you know, discourse the key component of the World Order. And then, after 9-11, we created a Domestic Policy Council to focus on, you know, issues related to terrorism, counterterrorism, you know, our presence in Middle East and whatnot.

**Ylli:** 26:07

So, are we now in a new era? I believe so. Are we organized for this era? Not yet. All the departments and agencies as you know, Craig, are moving, but usually our government moves when something bad happens and requires us to wake up. I think 9-11 was that wake-up call and we created DNI, and we created all these other agencies and offices. I think AI has that momentum for us to relook or reorganize for the AI era and I think we were at the beginning, as you know, of the AI era because it will have huge implications for the education and workforce and government and everything else. So, I think that is when I think we step in as SCSP, because we have the luxury to think outside. We're also surrounded by technologies, academics, private sector leaders who think a lot in this space, and so then what we do is we take all these conversations and we put it in a format to help our government move forward on all these conversations.

**Craig:** 27:04

Yeah, there's so much to talk about. Can you give us a quick overview of the Offset-X strategy? And then I want to talk about the action plan for microelectronics.

**Ylli:** 27:15

No problem. So Offset-X, one of our lines of effort here, is focused on the implications of AI and all these, emerging tech for the military and the future of warfare, and so you mentioned Third Offset. I was really fortunate to work for Bob Work, and a lot of things that Bob Work was trying to push through, uh, inside the Department of Defense really was um, early identification that the the warfare is changing. And so, I'm talking about 2014, 15, and 16 when I think he started talking about the implications of technology and AI, the future warfare, china really trying to get ahead, us losing sort of like the military supremacy and whatnot. And so, what we tried to do with Offset-X is really looking at, you know, what are some of the key technologies that are happening right now that could give us an edge on the battle space. We also looked at what's happening in Ukraine now. So, with those two elements in mind, we thought that the future of warfare really will be characterized by three primary factors. Number one is we will move into the space, and you can see this in Ukraine and elsewhere of many network distributed platforms. These are small. You can think of drones, you can think of uncrewed systems, but the future of battlefield, as you see it in Ukraine, is that of drones, first-person view drones, many highly networked, communicating with each other, communicating with humans in sort of like deployment and execution of the mission, and so that is one of the elements of the Offset-X.

**Ylli:** 29:01

The second element is software supremacy. When you look at what we have as a country, a comparative advantage over probably our main competitors is that we have some of the top leading software companies, and software is changing everywhere. It has changed how we work, how we receive information, and it's changing the warfare. And so how do we and, you know, our department is really notorious in terms of buying software and updating it regularly so how do we stay and how do we make the Department of Defense a software-oriented department for the future warfare. If you look at what's happening again in Ukraine, in Middle East and elsewhere is that you know, if you have cutting edge software, it will give you you know information advantage. It will give you situational advantage, it will allow you to defend against information operations that the enemy is pushing towards you, but also you can launch information operation against your adversary. So, staying ahead in the software space was the second element we thought the Offset-X should be focused on.

**Ylli:** 30:09

And the third element was really the human machine teaming. Human machine teaming because if you look at all these systems, there's a degree of human control and there's a degree that then these systems will complement human advantages. And so, I think as we move into the future of battle space, we will have human machine teaming in how we do intelligence analysis, in terms of how we do military operations and in terms of how we get situational awareness and whatnot. So, I think training humans in using better these capabilities will allow us to have an edge over our adversary.

**Ylli:** 30:49

I think our military is always ahead when it comes to the traditional training, but I think the situation is changing, that if the drones have proven to be so successful in the battle space of Ukraine, you know, I believe that we should have a drone unit in every other services that people are trained on how to use these drones. Because in, Bob Work has the saying that every military technology revolution that has happened, especially in the military space, has allowed us to focus on precise attacks and the execution of the mission. That in itself has limited and diminished the collateral damage, because the attacks have been more precise, more targeted, and I think you know this new wave of technologies will allow us to enter faster into that space by having AI-enabled systems that are like human, that have meaningful human control and they're deployed for, you know, all aspects of the military operations.

**Craig:** 31:57

Yeah, there are a couple of things in the Offset-X strategy that struck me. One, you talk about, with regard to drones, counter-autonomy capabilities. The US has been pretty clear to date that they don't endorse lethal autonomous weapon systems, but it's a little bit like refining uranium. It's the same technology, you just go a little bit further and it's autonomous. What does that mean? Anti-autonomy?

**Ylli:** 32:40

Counter autonomy

**Craig:** 31:57

Yeah, counter autonomy, I'm sorry.

**Ylli:** 32:43

So there are two things, and I think we've talked about lethal autonomous weapon systems. Chapter 4 of the NSCI really covered the lethal autonomous weapon systems and I think we came up with some conclusions. Number one was that the department is really well positioned to build and deploy these systems, and I think we came to that conclusion because the commissioners that came from, as I said, private sector academia, and former government were exposed to briefings and policies and procedures that the department has in place before it builds, tests, and evaluates and deploys these capabilities, because I think you have to separate fact from fiction sometimes in this conversation. I think we were heavily influenced by a number of movies in this space, but the reality is a little bit different.

**Ylli:** 33:41

When you look at the first memo the department under Secretary Austin issued when it came to AI, it was on the responsible and ethical use of artificial intelligence, and I think the leadership of the Pentagon wanted to demonstrate that they take this technology seriously like every other technology they have used in the past.

**Ylli:** 33:56

There are certain procedures and certain rules in which they have, before they test, they take, they test, evaluate and then they deploy these capabilities. So that's one. The second aspect of this is that there's a political declaration the State Department has issued and I think you have dozens of countries that have signed into that political declaration that no matter how the future warfare changes because of these systems, I think we should make sure that these systems are built and deployed in a responsible and ethical way. Obviously, I don't think up to now China or Russia have signed that political declaration. I don't expect that because, as you know, we have never seen anything coming out of Russia or China in terms of how they plan, how they build and how they're going to use these systems and they've used them. I mean, we all know Russia has used autonomous systems in Syria. They failed, but still, nevertheless. It's not that, I think they, follow some kind of policy procedures like we would in those circumstances. The second aspect to your question was about—

**Craig:** 35:01

Well, when you say develop counter autonomy, —

**Ylli:** 35:04

Yeah, counter-autonomy, so the counter-autonomy is a different space here, because we're entering a phase in which you have a lot of these systems being deployed autonomously and obviously every autonomous system will have a counter autonomous systems that seeks to, you know, block it, shut it down, and whatnot.

**Ylli:** 35:30

And so are we positioned even for that space, where a lot of these systems will be systems against systems over the air in the battle space. And so how do you make these systems resilient, cyber proof that your adversary cannot take it over and turn it against you? So, I think that is another area that will probably evolve in an accelerated way in the next three to five years because as you can see from the Ukraine battle space, a lot of these systems are becoming autonomous. I mean, one of the articles we published was that the Ukraine airspace is dominated by autonomous systems small drones or medium-sized drones of both sides and so in that environment, you know, how do you build these systems that you can ensure that they are proof of cyber attack, that your adversary cannot hack them and turn them against you. So that is the counter autonomy piece that I think will enter into the battle space policy in the next couple of years.

**Craig:** 36:33

Okay, yeah, that's interesting. I thought more that counter autonomy were systems, because if the US is not using autonomous weapons and the adversary is, you at least need a way to counter their autonomous weapons, because it becomes asymmetrical very quickly. The other thing in the Offset-X, you talk about disrupting adversary's communications and I assume because the Offset-X is really looking at China you now have Russia reportedly planning to field anti-satellite weapons in outer space, which would devastate our ability to communicate. So, yeah, can you talk about that?

**Ylli:** 37:26

Yeah, no, absolutely, look, if you look at the importance of space that has grown over the last couple of years, both in terms of where our adversary has invested, deployed and tested capabilities, but also if you look at the private sector on our side and how much you know the space has proliferated, both in terms of launches, in terms of satellite constellations, and then you know reliance on Starlink, for example, in Ukraine, that tells you a lot of how space is a key component now of the battle space and the warfare. I think some of the analysis that we have probably published is you know, I think the first move by the Russian military against the Ukrainian military was to try to shut down their, I think, satellites. And so, this goes back to, like you know, because space gives you information, awareness, communication, command, and control, and so space is a critical component of how we're organized now for the future of the warfare.

**Craig:** 38:32

You talk about, on the national plan for microelectronics, you talk about addressing the threat of China's massive build out of legacy chips, and there's some other really interesting things in there- this innovator visa category, which I'm all for. On the Chinese chips though, there's been a big debate about whether the export controls haven't created a bigger problem.

**Ylli:** 39:04

Yeah, first of all, I think the export control really aimed to what I think the National Security advisor said, you know, high fence, small garden approach. The export controls were designed, I think, in a way, and targeted to prevent China from having access to the cutting-edge semiconductors. Not all semiconductors, but the cutting-edge semiconductors. So that's one thing, because I think, as you know, these are the semiconductors that allow you to get to these high-end AI models. So that's one. I don't think that has prevented China from investing on all other aspects of semiconductor industry, nor, I think, it has prevented China from trying to circumvent export controls by getting access to, you know, clouds in third countries or buying a new design of a similar chip from certain companies. So, I think the issue of export controls, I think it did have an effect I mentioned earlier, look at the general AI models where are our companies versus the Chinese companies? So that's one. Secondly is, these export controls have been in place since October 2022. So usually, you know, these effects will not be immediate.

**Ylli:** 40:30

You have to think about it in terms of three to five years and how much I think that has an effect on the Chinese access to these capabilities and I think, as I think the White House has said many, many times, these were not intended to slow China down forever.

**Ylli:** 40:53

They were intended to give us a competing edge, a window that we stay the leading technology, and while we did the protect side of the export controls, we also did the promote. We have invested through the CHIPS Act $52 billion on domestic fabs, and then companies have also came on top of that to announce their investments here, and so I think not only you have to slow them down, you continuously have to evolve in this space. Secretary Raimondo said yesterday that maybe we might need another CHIPS Act, and I think the demand, as you can see from what's happening right now with the CHIPS worldwide, is so big that I could probably foresee another CHIPS Act in the next, because I think the first CHIP Act was like just trying to catch up and I think staying ahead in this space will probably require more investment.

**Craig:** 41:45

Yeah, I guess what I'm referring to is it's also spurred China to have a national plan to become independent in high-end semiconductors you know everything from lithography on and that's not necessarily a good thing if they're no longer dependent on Western supplies.

**Ylli:** 42:08

No, and I understand that argument, Craig I would argue that China would have done that anyway, because I think, if you look at the China policy made in China 2025, which is also known as the dual circulation policy is they have a strategy in place and this is a public document that they want to be independent from the world supply chain, but they want the rest of the world to be dependent on their supply chain, and so I think they would pursue the semiconductor path of independence, regardless of our export controls,

**Ylli:** 42:49

just because they look at what's happening in Ukraine, with us sanctioning Russia and their access to semiconductors and I think the technology aspect or their national security approach is it, shouldn't serve as a weak point in whatever they decide to do around Taiwan, wherever the global ambitions are in South/Southeast Asia, and so I don't think they would have let the technology piece be their weak point in pursuing their regional and global goals. So, I think, bottom line, as I said, I think they would have pursued the path towards semiconductor design, fabrication and production independent of our export controls. I think we have managed to slow them down and I think this will have implications for the next couple of years.

**Craig:** 43:38

Can you talk a little bit about the National Semiconductor Technology Center, that proposal?

**Ylli:** 43:44

And so, the National Center was part of our recommendation with NSCI, because what we argued in an NSEI report is not only do we need resources to catch up and build some of these manufacturing capabilities back to the United States.

**Ylli:** 43:58

You need a center that brings together probably our government labs, university labs to look at what's the next generation of semiconductors we have to look after. If you think about it, we're getting close to the end of the nanometer or the Moore's law, and so there are different paths now that you can take in terms of how is the future of semiconductor going to look like? And I think we need a center like that. We need a center that the only job and the only objective is to look at what does the post-Moore’s law world look like in terms of semiconductors. I think, with the right actors, with the right leadership and I think Secretary Raimondo has been a force of nature in this space. That center should focus on really coming out with a couple of options that we should have as a country, as a government, in pursuing the next three, ten years of this technology.

**Craig:** 44:51

Okay, can you talk about this expo that's coming up in May.

**Ylli:** 44:54

Yeah, so the expo is probably a unique gathering in DC. It's a classic AI expo in a sense that nobody has ever organized this in Washington. You have AI expos around the world, you have the CES in Vegas, but in Washington nobody has ever brought together the technology companies small, medium-sized and large companies with government agencies, with academic labs in one place where they can showcase technology. So this is not just a conversation, this is not just releasing another policy document. This is really bringing together in one place people to see demos of these technologies, to have conversation around these technologies, to exchange business cards, because our government desperately needs to modernize when it comes to these technologies. There's an enormous capacity in private sector to offer these technologies to government. So this will be a unique place, over the course of two days at our convention center, may 7th and 8th, for all these stakeholders to come together, talk, engage and really deepen their relationship when it comes to AI and emerging tech.

**Craig:** 46:02

Yeah, how much of that will be focused on national security?

**Ylli:** 46:02

A fraction, Greg, because what we have said is, you know, there are probably 19 departments and agencies in Washington DC, and so I think what we want to focus on is there's certain elements of the conversation and companies that are tailored for Department of Defense and the intelligence community, but I believe we can provide a useful service here for health and human services, FEMA, because, as you know, these models can do an incredible predictions of hurricanes, weather forecasting. So by bringing not just DOD and IC related companies, but other companies that have services and have technologies in this space, I think we would really do a huge service to other non-DOD and non-IC related departments and agencies in DC with the AI Expo.

**Craig:** 46:52

Okay, great well, I'll be there, and I appreciate the time. I know you've got a tight schedule.

**Ylli:** 47:01

Thanks for having me, Craig. It's always a pleasure and I’ll see you on May 7th!

**Craig:** 47:06

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**Craig:** 48:15

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