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TRANSCRIPT

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FEATURING

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Gregory C. Allen: So it's my great pleasure to introduce Dr. Ben Buchanan, who is the White House Special Advisor for AI. Prior to that, he was the director for technology and national security on the National Security Council. And before entering government, he was a professor at Georgetown University and a senior fellow at its Center for Security and Emerging Technology.

But that's not the important part of his past life. The important part of his past life is that he used to be affiliated with the Harvard Kennedy School of Government's Belfer Center for Science and International Affairs, which is where I first met him, way back in I think it was 2016, which I refer to the era of AI policy before it was cool. And Ben was already on that train, and I was also already on that train, and he was writing a fabulous paper called "Machine Learning for Policymakers," where AI technology has changed a lot, and yet that paper still holds up surprisingly well. That was one of merely the dozens of things that he wrote that were great before he entered government.

And now he has sort of as in his role as the Office of the White House Chief of Staff has been leading so many different policy initiatives on AI at the Biden administration, and that's why we're so privileged to have him here for this fireside chat on U.S. priorities for domestic and AI governance. So please join me with a very warm welcome for Dr. Ben Buchanan.

Ben Buchanan: Thanks for having me.

Mr. Allen: Well, it's a real pleasure to have you at CSIS. We've been wanting to do this for a long time. And I was going to – when I was discussing, you know, what this was going to be, I was framing it as the Biden administration exit interview on AI. But now I understand that's completely inaccurate, because you're not done. There's more coming in AI policy before the conclusion of the Biden administration.

Dr. Buchanan: Forty-two days to go.

Mr. Allen: Forty-two days to go.

Dr. Buchanan: Who's counting?

Mr. Allen: And, you know, here's the one thing that gives me a little bit of frustration about that. There's some exciting developments in AI policy and coming out of the Biden administration that I've been waiting for a while. And you tell me, you know, hey, these things take time. Now you've got 42 days, and it sounds like a lot's coming in not a lot of time, which is really exciting. So we're going to get into some of that. I know

you can't talk about all of it.

But before we get into the next 42 days, I want to talk about these past four years, because AI really has been seminal in the Biden administration. There's so many sort of flagship initiatives that this administration has taken on. And I want to start by sort of trying to connect the dots, because we just heard from one of the panelists on the previous session that he thought that it read like the AI Executive Order and the AI Bill of Rights were written by a different presidential administration than the AI national security memorandum, because the documents were so different. So give us your sense of, you know, how the Biden administration's approach to AI policy has evolved over time. Is he wrong? Is this all very consistent? Or is he right that, you know, there was sort of a major turning point?

Dr. Buchanan: What's the Whitman line? We contain multitudes. It is true of our AI policy as well. It was written by the same people. I think they're consistent. I think if you go back in the administration, probably the first big public facing thing we did was the blueprint for the AI Bill of Rights. Alondra Nelson, the team –

Mr. Allen: It was a white paper, nonbinding document.

Dr. Buchanan: Non-binding document. Yeah, Alondra Nelson and the team at the Office of Science and Technology Policy deserve a lot of credit for really leading that effort. And that, I think, sets out an aspiration, big picture of where our society could go and should go with AI. As you said, non-binding, big picture, before ChatGPT. So we were thinking about this before ChatGPT. Obviously, the chip controls on China, which were related to AI, were before ChatGPT as well.

Then you have the executive order, which came out last year. I would describe this as taking a lot of what's in the vision and making it more concrete. Obviously, I think a more narrow scope of what's in the much broader vision, but making it more concrete. And that looks at how AI touches all across our society, from healthcare to hiring to housing to some national security, but not a ton, certainly to public safety. And that is, I think, a key part of what we did. Those actions are done. We did 100 percent of those deliverables on time.

One of those deliverables was the national screen memorandum, which is a document you just referenced that came out a couple a couple months ago that thinks about how do we take AI and apply it to national security, and how do we make sure that AI in the United States continues to accelerate forward and continues to make progress in a way that's safe and responsible.

To the degree that there is a tension, or a perception of a tension between these documents, I think it is because of a disagreement about the role of safety and careful action in acceleration. And my view is that you can go faster when you go safer. You can go faster when you are thoughtful. And the best evidence for this comes from basically every other previous paradigm of technology, where setting up usually non-regulatory, as we've done, no AI regulation rules of the road, standards and the like, enables the technology to progress faster. If you look at the early days of the railroad, there were tons and tons of accidents, and eventually, railroad companies and the government worked together to set safety standards, and trains went faster, in addition to accidents going down. The same is true of aviation and the like.

So we really have tried to take a light touch on AI, including in the executive order, but I think in the national security memorandum you certainly see probably the clearest articulation of our vision for how we can accelerate this technology, retain American leadership, and then ultimately use it to protect our nation and advance our national security.

Mr. Allen: So the AI national security memorandum, which, if folks have not read, I actually encourage you to read it. It's a pretty remarkable document. And I think it's fair to say that folks in the Biden administration have noted and were conscious as they were writing of some echoes between this AI national security memorandum about the national security implications of a transformative technology and the echoes with some prior legendary documents. I'm thinking like NSC-68, which was the sort of first really big stamp of what life was going to be like in an era of nuclear weapons, and then some of the early papers that came out on space policy from some of the military services. You're kind of in that tradition. You're really the first wrestling with what I would call frontier AI. And I think this is the terminology that's been embraced by the administration. But if you think about what you and I were working on in 2016, that was really about machine learning, deep learning, and especially supervised learning. And with frontier AI, it's all of that, but times a million, with these large, not narrow, but general purpose models, and wrestling openly with what might come of things like AGI, artificial general intelligence.

So you know, what really were you trying to accomplish with the AI national security memorandum, what needs to be done before you leave office, and what, you know, would have to take place during the Trump administration for it to really be successful?

Dr. Buchanan: OK, there's a lot here. Let's go in order.

So I think in the echoes of previous documents, we will not put ourselves in that category, but I think it's fair to say we explicitly say in the national screen memorandum, this is a technology on par with those previous ones.

What we also say is that, for the first time, this is a revolutionary technology that is not funded by the Department of Defense. And if you think about the ones you mentioned – nuclear, space, I would add in the early days of the internet, the early days of the microprocessor, large-scale aviation, large-scale IC, missile deployments and the like, development of radar – all of that was funded by the Department of Defense and to some degree, the intelligence community.

And that close link between the government and the inventors of the technology, historically, gave the government the capacity to understand the technology, frankly, better than many in the government understand frontier AI, and also gave the government the capacity to shape the technology. And we have very little control over what companies put out in the United States. It's a totally private sector-led ecosystem.

And I don't think it's a bad thing. I think it's actually a wonderful thing that private industry has taken up the mantle of this kind of innovation that the government's not paying for, the taxpayer's not paying for it, but we get to use it. It is just a dynamic that raises a set of challenges and dynamics that we have to account for. And the national security memorandum, more than anything else, states that very explicitly.

The second thing it does, which is related to your question about frontier AI, is it says – there's a direct quote in there – this is not just about a paradigm shift to AI. This is about a paradigm shift within AI, and it is a shift exactly that you were talking about, from supervised learning to much more frontier systems, or general purpose systems, without getting into the AGI discussion, that can do more than one discrete task or better at a range of tasks.

When you and I were writing your papers at the Belfer Center, neither of us use the word transformer in our papers, because the transformer, which is the fundamental algorithm that underpins large language models today, was not invented yet in 2017. And I think you used to work at DOD. If you went to our colleagues at DOD and said, what do you think about all this AI stuff, they would say, correctly, well, we've been doing AI for a long time. In fact, we funded all of the AI work in the 1960s and '70s and '80s, and we used supervised learning all the time in the Department of Defense, through the JAC and the chief digital AI

officer and all of that.

And what the NSM is getting at is saying, that's good, that's really good, but that's also not enough, and we need to keep up with the shifting paradigm where we have these large-scale general purpose systems, even if they're not general intelligence, that have tremendous value to national security. And we need to figure out, because they're not invented by the U.S. government or funded by the U.S. government, how we're going to bring them in. That's what the national screen memorandum lays out.

Mr. Allen: And I think it was really remarkable to me, one of the things that came out of the national security memorandum was this consciousness about the stakes of the competition with China on this and there's not just the national security memorandum, but a throughline with the Biden administration on AI policy of really a greater willingness to do what it takes to effectively compete with China, going farther than the Trump administration did, even where it was adopting some of the tools the Trump administration used.

I'm going to get there in a moment, but for a second, I want to linger on one of the key taskings that I think came to you personally out of the AI national security memorandum, which was a direction to study – in your capacity as the White House Chief of Staff Office for AI –study the implications of AI and energy, and which was something that we've been talking about a lot today.

So I believe the direction was to, you know, study, what are the barriers to building out a lot more AI capacity, a lot of the energy to support that capacity. And you know, hey, it's been like 30 days. Are you done yet? You only have 42 more. What's going on so far?

Dr. Buchanan: I intend on using all 42 remaining days. No, this is very important to us. And I think it is fair to say that one of the characteristics of this paradigm of AI that we are in are large capital investments, a large number of computer chips, large amounts of data, and large amounts of electricity to make it all happen. And I'm not really worried about the first three at least for the United States. We have the money. We have the chips thanks to things like the CHIPS Act and the like helping that effort. Certainly, we have the data.

But I want to make sure that we can build the power here in the United States to build this technology here. And this administration would like to see it done with clean power. I think there's a lot of reasons to think it can be done with clean power. So that's a key part of what we're trying to do as we think about the tasking that we gave to ourselves. In the

national security memorandum the president gave to us very directly, but this is, I think, a really key part of making sure the United States remains competitive.

And having gone deep into the weeds on energy, it is worth noting, the United States has really not added a lot of net new energy to the grid. We've retired dirtier energy. We've brought in clean energy, which is terrific. But we have not seen a spike in overall energy demand for the last 25 years or so. That is, in general, a good news story because it means we've gotten much more efficient. Obviously, our economic growth has continued at record paces over that time. But it's a muscle we've got to exercise again to build a lot more clean energy here in the United States, not just for AI. So we have to do it because of AI. We have to do it because of electric vehicles and electrification of key parts of our economy. Obviously, we're very supportive of that here. And then also just the revitalization of manufacturing coming back to the United States, which I think is, again, a great thing, but something that's going to require energy. So there's a lot of reasons why this White House, beyond just the AI folks, have focused on building out energy, especially clean energy, here over the last four years, and something we will continue to push on, I'm confident, until all 42 of those days have elapsed.

Mr. Allen: Could you help calibrate this with some numbers? Because we reviewed the capital investment plans of some of the largest AI providers here in the United States – Microsoft, Google, OpenAI, Amazon – and they're planning on deploying $300 billion worth of capital expenditures focused on data centers for AI and energy infrastructure for AI in 2025. I mean, that's almost half the DOD budget.

Dr. Buchanan: Aren't you glad the government's not paying for it?

Mr. Allen: Yeah, it turned out pretty well. And so I'm curious, you know, what is your role? What can you actually do? Because on the one hand, the private sector is writing the checks and a lot of the painful regulations that make this so hard exist at the state and local level. So what really can you in the Office of the White House Chief of Staff or coordinating with the interagency process, what tools do you even have available to whack this problem?

Dr. Buchanan: The first thing we did, actually, even prior to the NSM, because we knew it was coming, was the White House chief of staff, the national security advisor, the director of the National Economic Council, all convened the AI CEOs, chip companies, data center companies, who actually build the data centers themselves, and utilities in September for a very in-depth conversation about what are the problems, what are the bottlenecks

and the like. We have tried to provide assistance in the permitting process. I will skip some of the specifics for now, but I think it's fair to say we've had success in doing that, and companies have told us the government is moving faster on permitting, federal permitting, and also state and local where we can help there.

So we are happy with how that is going. I think it is just a start, but before we get to any kind of other potential actions, that is something we've done already, is convening and then making sure the government just moves a lot faster in processing these permits. It doesn't mean we're lowering environmental standards. It doesn't mean we're lowering labor standards. It doesn't mean any of that. It just means we're making sure that government's moving as fast as the companies and other stakeholders are ready to move.

And it's worth saying when the chief of staff's office cares about something, and certainly when Jeff Zients, the chief of staff, cares about something, the government does move much faster. Yeah, I think for better or for worse, one of the throughlines in our AI policy, which is really at the direction of the president, is you have to move the pace of technology is moving, or we're going to be left in the dust.

Mr. Allen: OK. And you don't have to tell us, but I think it's plausible, right, that this is one of those things where you have 42 days left, and you're going to use all of them.

Dr. Buchanan: I'm happy to say that.

Mr. Allen: Yeah, that's great. So we'll be on the lookout for your actions related at the intersection of AI and energy.

I want to ask, you don't really have to persuade me, because I want it built in the United States, but I kind of want to hear it from your mouth. What is the reason why this needs to take place in the United States? You know, data centers traditionally involve a lot of job creation when you're constructing the data center, and then some jobs, but not nearly as many when you're operating the data center.

So what is the strategic interest of the United States in making sure that this massive energy buildout, this massive data center build out occurs in the United States, as opposed to across the border in Canada, right? We would still have all the frontier AI labs, but, you know, in this scenario, they would have the data centers, or other countries like the UAE, right, have said we want to be a big partner for the United States in building out data centers.

So when does it matter that it take place in the United States? When does it not matter that it take place the United States? And what sort of criteria are you using for evaluating that kind of decision?

Dr. Buchanan: Well, we're not picking the sites of individual data centers. So companies have some freedom to go where they want to go. But I think it's just making sure the United States is hospitable to this kind of work. And obviously we will do some of this work with allies and partners. Our companies already do. Google has a huge presence, for example, in the United Kingdom. I think all the companies have a huge presence in Canada as well. So it is not to be totally protectionist about this, but it is to say that we want to make sure that it's it is possible to build it here.

I think in general, if you look at the history of our technology economy, when we've sent things like chip manufacturing overseas, we have regretted it, and that is a lesson that I think this president has taken on board and has worked very hard to reverse. So I think that probably weighs on some of the AI conversation as well, but it is about making sure that the United States remains competitive as this technology, which we think is going to be very important for security and economic purposes, continues to push on forward.

Mr. Allen: Yeah.

So in our previous panel, we heard some of these folks talking about what the Trump administration might want to continue. I mean, we've heard the Trump campaign said pretty clearly in their platform, their goal is revoking the AI executive order as soon as possible. But as we heard from our previous panelists, they might pick and choose some elements of the AI executive order that are still appealing to them.

And within the AI national security memorandum, I feel very confident that they're going to want to continue this workstream related to making the United States more competitive when it comes to energy, when it comes to the intersection of AI and energy. So I think that's all there.

I mean, I don't want to ask you to sort of pick amongst your children, but if we were to talk about, you know, repealing the AI executive order, what are the things that you think are just like it absolutely has to continue, you know, there's something critical in there that you'd break, something really important if you didn't continue?

Dr. Buchanan: So implicitly, what do I want them to repeal? Is that the question?

Mr. Allen: No, the opposite. What do you want them to not appeal?

Dr. Buchanan: Whatever I omit is on the chopping block?

Mr. Allen: I suppose that's fair, yeah.

Dr. Buchanan: I get the politics of this. I understand what's in the party platform. I'm a university professor before I did this, so a national security professional, not doing the politics of the details. I think when folks look at what our AI policy is, and the incoming team, the things we've tried to prioritize doing it here, making sure we have the infrastructure to do it, making sure the systems are safe, making sure we bring in the kind of talent we need to do that, taking all that technology and putting it in the U.S. government national security apparatus so we can use this in our competition, especially with China, making sure the Chinese don't build this technology on their own. I think there'll be far more continuity than not continuity.

And I think, I imagine we would probably, probably disagree with the Trump team on some of the contours of how AI applies to, you know, some of the domestic agencies and the like. You know, that they'll get to make their decisions on that. But I think on a lot of the big thrusts of the executive order and the national security memorandum, when you look at the details, these are not particularly partisan ideas.

Mr. Allen: Yeah, and I think it's really interesting that you mentioned that, because the first Trump administration, I remember both in my time as a civil servant and serving in the Department of Defense during the first Trump administration, and then also in my time as a think tanker during the first Trump administration, AI was a pretty bipartisan issue at the time. And if you look back in what was in the Trump AI executive orders, they included a focus on AI safety. They included a focus on developing standards.

And if you think about one of the key things that came out of to a certain extent the AI executive order, but especially in the AI national security memorandum, you have the AI Safety Institute. And where does it live? In the National Institute of Standards and Technology.

Dr. Buchanan: Which is totally non-regulatory.

Mr. Allen: Exactly.

Dr. Buchanan: So there's no binding anything from the AI Safety Institute. All the AI Safety Institute says is the U.S. governments is open for business. We are bringing our national security expertise to American companies who

can, on a 100 percent voluntary basis, work with us and sign a memorandum of understanding to figure out what that relationship looks like. Two companies, two leading AI companies, OpenAI and Anthropic, have been impressed enough with the expertise we have brought to bear, including people who have invented some of the fundamental techniques in artificial intelligence, like Paul Christiano, to say we'd like to give our systems to you before they're released to the public so we can walk through them together. That is including, one OpenAI system that was released – today's Monday. Friday. All 40 days are blurring. So that is the voluntary, totally non-regulatory relationship that we have between AI Safety Institute and the companies. I don't see why that's not a bipartisan thing.

Mr. Allen: Yeah. And there's, you know, some analogs you could make to the National Highway Transportation and Safety Administration, where it's like this safety testing is voluntary, but I promise you, all of your customers are going to want you to do it. And by the same token, we have this AI Safety Institute which has this voluntary opportunity for pre-deployment safety testing, and at least so far, the companies seem interested.

Dr. Buchanan: Everything I've heard from the companies is – main companies that they're interested. I also get it a lot from the employees at the companies who are saying there are parts of AI and AI safety that we know very well, and there's parts that we don't. And sure, we hear from the executives at the companies, but also the folks actually building are saying, you know, we don't have a lot of expertise in this company about the intersection between AI and bio, for example. The U.S. government thought about biology for a very long time. And if you can bring in experts from the Department of Energy and the Department of Defense to help us, we're grateful.

Mr. Allen: Yeah.

So the last time I saw you was in San Francisco at the first convening of the International Network of AI Safety Institutes. And I think it's noteworthy that this is not just a sort of domestic effort of the Biden administration on AI policy, but also an international one. So talk to me about your reaction from that event and what you sort of see as the future of this network.

Dr. Buchanan: One of the things in the executive order that I'm quite confident the Trump team and I agree on is the importance of trying to have one standard. What we hear from our industry all the time is we don't want 50 standards in the United States, and we don't want 193 standards around the world. So whatever we can do to harmonize technical

standards, safety standards in this nascent field will help us go faster with this technology.

And we've taken this to heart. This has called out explicitly as an objective in the AI executive order, and, again, in the national security memorandum, and it's an objective as part of the international convening where we say it's not something the United States is just going to do by itself and developing these standards, and we want to do this with allies and partner nations. Frankly, a lot of nations around the world are looking to the United States for our expertise in doing this, and a lot of them are contributing their own expertise.

So the kickoff event a couple weeks ago in San Francisco was 10 nations that have set up essentially AI Safety Institute or equivalents, coming together to talk about developing technical standards in this space. And again, I think that is non-partisan work that is important for national security but also important for economic competitiveness, and I certainly hope it continues.

Mr. Allen: Yeah.

And just zooming out a bit and thinking about the international landscape of AI policy, the Biden administration really has – I mean, I've heard it from folks in the administration; maybe you can tell me if I'm wrong here – but I've heard that the heard that President Biden has not had a meeting with a foreign head of state in several years where AI wasn't on the agenda. I mean, it's literally everybody wants to talk –

Dr. Buchanan: He has not included me in all of his foreign heads of state meetings, so I can't speak with confidence on that. But I think it is fair to say in my conversations with him and as he has talked to the public about this, he talks all the time how this is something that foreign heads of states bring up, and something where he has his views. And I think probably the best articulation of his views in the international context was what he said at the U.N. General Assembly just a couple months ago, where he's talking this – he's got just a few minutes with the international community and what is he talking about? Amongst many other things, is AI, and I think it's reflective of the foreign interest here.

Mr. Allen: Yeah.

And how would you describe at a high level the Biden administration's approach to international diplomacy when it concerns AI? You know, we had Jennifer Bachus here earlier in the day, representing the sort of State Department perspective. But zooming out at the White House level, at the whole of the nation level, what do you think the United

States needs to engage allies and partners with on AI? What do you think the United States needs to engage with what you might call the unaligned world when it comes to AI, and of course, with our competitors and potential adversaries?

Dr. Buchanan: I don't know if I've said this part publicly, but the mantra of our international work on AI has been lead with substance, and I think embedded in that are two very important ideas.

The first is that clearly the United States has some role to play. These are fundamentally American AI companies making this technology with American design chips, often almost exclusively at this point in the United States. So we have an indispensable role here that we are not going to shirk. But we also have to bring substance to the table, and I think that's what we've tried to do in a bunch of different international settings. Probably the first big one was the G-7 code of conduct, which we rolled out the same day in close partnership with the Japanese government, the Hiroshima process, the same day the president signed the executive order. This G-7 code of conduct is built heavily upon the voluntary commitments our companies made to us. So again, totally non-regulatory, but taking the input from our industry, using that as the basis for international agreement, getting the G-7 nations to sign up.

In a broader setting, there's the U.N. General Assembly resolution. The first ever one passed on AI passed unanimously; 193 nations voted for it or supported it. No one voted against. I think it was 123 co-sponsors, including China. So that's a much broader tent, but another place where we've tried to show up and lead with substance internationally.

And we've just talked as well about the AI Safety Institute convenings and the like. I think probably on top of that, and as there, and as – as you know well, is the work the Department of Defense does with the Partnership for Defense, likeminded nations talking about AI in a military context; and then the political declaration on the use of AI in military systems which articulates our view for how AI should and shouldn't be used in the context of warfare and intelligence, which has been signed by 56 nations around the world.

Mr. Allen: Which I think is kind of remarkable that you were able to achieve that and the timeframe in which you were able to achieve it, because I remember the United Nations Convention on Certain Conventional Weapons Group of Governmental Experts on Lethal Autonomous Weapons was commissioned to just come up with a definition of the term. Then they expanded their mandate to secure an international ban. And 10 years later, they had neither defined the term nor secured an international ban. But the Biden administration, you know, just taking

the first whack at it managed to persuade 56 likeminded countries, you know, what would constitute responsible versus irresponsible use of these types of technologies in a military context.

Dr. Buchanan: I think we are not alone in feeling a lot of pressure to move quickly to manage this technology. The United States is bringing indispensable substance to the table, but we are very fortunate to work with a lot of allies and partners, and 56 nonaligned states too, who might not always agree with us on everything but who see the value in what we're trying to do here.

Mr. Allen: Yeah. So, obviously, a lot of the context for your decision-making on the international dimensions of AI policy comes back to U.S. competition with China. From my own perspective, I really viewed October 7th, 2022 – when the Biden administration launched a new series of export controls on the chips that are used to train advanced AI models, as well as the chipmaking technologies that are used to make those chips – to me that seems like a seminal moment in U.S. foreign policy. I would say of the two biggest decisions that the Biden administration made in its foreign policy in 2022, backing Ukraine being number one, I think number two would be these export controls. I mean, I really think when we look back 50 years from now on what mattered in U.S. foreign policy in 2022, I think it's going to have a strong case to be there.

Secretary of State Tony Blinken, giving a speech, you know, a few days after those controls came out, said that the post-Cold War era is over. We're in a new era. And at the heart of that competition in this new era is going to be technology. So it seems like the Biden administration sort of recognized the stakes of that competition. You know, walk us through the decision to launch these new types of export controls. And then I'm going to ask you to comment a bit on the more – the more recent ones. But first I want you to sort of walk us through how the Biden administration reached that decision back in October 2022 that this needed to happen.

Dr. Buchanan: Yeah. I think there was a group of folks – myself included, but certainly not limited to me; people like Tarun Chhabra, Chris McGuire, and the like – who were thinking about the importance of AI for the future of international affairs, and for national security and competition with China in particular, and were thinking about the importance of computing power in that AI paradigm – again, this paradigm shift within AI – and recognized that, actually, the United States' hand here is extraordinarily strong, obviously in partnership with Taiwan and Korea, Japan, the Netherlands, other parts of the global supply chain. So recognized that this was an opportunity to make sure we were not going to sell to China the kinds of chips that it would use to modernize

its military, deploy weapons and technologies that ultimately would hurt American warfighters and American national security interests, and also I think the national security interests of our allies and partners around the world. So that was the genesis of this.

Obviously, nothing like that happens without a lot of bureaucratic process. You know that.

Mr. Allen: (Laughs.)

Dr. Buchanan: So there was a lot of time spent making sure the details were as close to right as they could be for a first cut at a policy like that.

But you know, as I – as my time in this administration draws to a close, I have been reflecting more than maybe I did a couple years ago when we were in the thick of it on decisions like that and policies like that. And this is trite to say, but it's completely true: I give folks like the national security advisor and the president a ton of credit for being willing to hear this argument from a bunch of tech folks, really dive into the details in a significant way, and then make, I think, a, as you said, very significant decision long – you know, all before ChatGPT. It wasn't like AI was on everyone's radar at the time, but I think it – I think it's something that ultimately we are – we are proud of and we've refined, of course. But the strategic shift embedded in that decision is something that, speaking for myself and I think our administration team, we're proud of that.

Mr. Allen: So I want to ask about the before ChatGPT thing that you just mentioned, because I do think it's noteworthy that these controls came out October 7th, 2022; in November of 2022 is sort of the ChatGPT explosion, right? The entire – the eyes of the world are upon the U.S. AI industry because of, you know, ChatGPT going from zero to hundreds of millions of users in a – in a matter of days. And from my perspective, the justification of the October 2022 export controls as it's written in the legislation, you know, really focused on the fact that China was using U.S. GPU technology in its military systems. That's not really up for debate. Like, the procurement records are out there. You can go look. China admitted to this. They were using it to modernize their nuclear weapons development as well as their nuclear weapons delivery mechanisms. That's also not really up for debate. It's out there. You can go read the records.

But what was not – and I want to say this is something that's just always important to remember, is there's the justifications that you are required by law to put in the policy in order to access the relevant legal authorities, but there's no requirement that it be all of the reasons that

were in your mind. And so I want to ask you, you know, the national security memorandum which really is focusing on frontier AI, really is focusing on this revolution – so it's clear that the Biden administration cares a lot about frontier AI circa 2024 – I want to ask, was that on your mind in 2022? Were you sort of seeing the writing on the wall that these increasingly general purpose, these increasingly larger, increasingly more diversely capable models were coming down the pike, and that there were big national security implications, and that if we were going to have any kind of strategic effect we needed to move quickly? Was that on your mind?

Dr. Buchanan: I don't want to speak for other people because I did not have this conversation with other folks. Certainly, I had had conviction about the importance of AI for national security and the importance of computing power in AI since before I was –

Mr. Allen: Right, you wrote a paper called "The AI Triad" about data, compute –

Dr. Buchanan: There was a Foreign Affairs piece, "The U.S. Has AI Competition All Wrong," about, basically, it's not about data is the new oil; it's about computing power. So my cards are on the table as a professor, for better or for worse, since before I was in the government.

Mr. Allen: (Laughs.) Yeah.

Dr. Buchanan: I will let others in the government decide how they – what they were thinking in 2022.

I do think it's the case that, certainly when we were talking to folks in the government about this, the facts that you just mentioned were indisputable. And that's kind of all you need, I think. What else people were thinking about I will leave to them. But there's no doubt – there's not – there's no doubt in my mind, and there hasn't been doubt in my mind for a while, about the importance of frontier AI for national security and the importance of computing power for frontier AI.

Mr. Allen: Yeah. If I could – you know, you have 40 days left of tough work ahead of you, but if I could sort of get back – get in a time machine and go back to October 2022, there's a lot of preamble in the AI NSM that sort of justifies why all these actions are being taken. That would have been lovely to include in the October 7th regulations because they do –

Dr. Buchanan: What would – what would have been different? If we – if we had the preamble you wanted in October of 2022, what would have been different?

Mr. Allen: So –

Dr. Buchanan: Other than giving you two years more to, you know, ruminate.

Mr. Allen: Well, you know, my papers would have been better.

Dr. Buchanan: Sure. Sure.

Mr. Allen: I'm sure that's what you were optimizing for.

Dr. Buchanan: (Laughs.)

Mr. Allen: But, no, I think the connection to allies would have been easier. I think the October 7th policy makes so much more sense once you've read the AI NSM, you know, because the AI NSM articulates a Biden administration worldview about the centrality of compute in national security AI competition that I think was implicit in the October 7th, 2022, export controls but was not explicitly articulated. And I think we might have had an easier time – I mean, who knows; I don't have that time machine – but we might have had an easier time explaining to the rest of our allies why we were doing this if that implicit had been made explicit.

Dr. Buchanan: Maybe. I don't know that I would look to dense regulatory documents on export controls for –

Mr. Allen: (Laughs.)

Dr. Buchanan: – for my explanation of why things are the way they are.

I do think Jake – I mean, I know Jake gave a speech – Jake Sullivan, the national security advisor, gave a speech in September of 2022, so right before this, which was kind of the preview.

Mr. Allen: This is the small yard, high fence speech, yeah.

Dr. Buchanan: Yeah, and also he talks about the fundamental areas of competition. He talks about computing power, biology, and clean energy as the – I think his phrase is as large of a lead as possible, basically, like, saying this is where we are going to put our focus. So we did try to do, and really senior folks like Jake, did try to do an articulation at the time. But sure, it's not in the filing from the Bureau of Industry and Security, that's true.

Mr. Allen: Yeah. And I'm sure, you know, all of our allies were closely reading those documents at a very –

Dr. Buchanan: They were probably focusing on Jake's speech. (Laughter.)

Mr. Allen: I think that's probably fair to say.

So now, as you think about those export controls, you know, most of that policy was written about China, but it does have implications for our interactions with a lot of other countries. So –

Dr. Buchanan: Sorry, can we just do one more thing on allies?

Mr. Allen: Oh, please. Please.

Dr. Buchanan: I wanted to clarify this. One of the things I think that we are proud of about the October 7th thing is how allies came along, so – especially on the SME side, which is actually not something that I particularly – I leave that to other experts. But nations like the Netherlands and Japan, after we took the first step, joined with us in doing that.

Mr. Allen: Yes.

Dr. Buchanan: So I do think you can sequence the documents however you want to sequence the documents. You should judge our record on export controls with China not just on what did the United States do unilaterally but how did the international community of nations that are actually building the stuff work together over the last four years to do this.

Mr. Allen: Yeah.

Dr. Buchanan: And I think that more than anything will be a legacy of which this team is proud. And I again, I can take no personal credit for it, but that is something that I think is an important part of holistically looking at what did we do. It is not just the United States alone.

Mr. Allen: Yeah. As you think about, you know, the approach to export controls that you've had and the way that it interacted with the multilateral concerns that you've had, I mean, I think it makes – it's crystal clear, you know, to the United States that if we're going to stop selling something to China and then an ally or a partner is going to sell that exact same equivalent good to China, and while – we've basically lost a lot of American company revenue and we've had no strategic impact on China. So you really do need to have a strategy for bringing allies and partners, you know, along if you want to do this.

I want to ask if the means that we've taken – if you were to sort of consider advising the Trump administration on how to think about

export controls in the context of AI national security competition, I want to give you one contrast. So, the Wassenaar arrangement, which is the primary post-Cold War multilateral export control framework – it is a consensus mechanism. Everybody has to agree for the export controls to apply to anybody. By contrast, the Cold War era export control system, COCOM, was a veto-based system. You know, if one country said that we don't want these exports to the Soviet Union to happen, they didn't happen. Greece could block the United States exporting to the Soviet Union. So we've gone from a veto-based system to a consensus-based system, and I think, you know, the performance of the veto-based system in holding back the Soviet Union is much stronger. I mean, when the Soviet Union fell, I think Moscow had five long-distance phone lines. Five people could call long-distance in the Soviet Union at a time out of Moscow because their technology was so backward. I mean, it was really helpful that they didn't have access to all of this dual-use technology that the United States had.

And so what I want to ask is, on the one hand I want to, you know, commend you and the Biden administration for being multilateral, and I just want to ask realistically, is it enough, you know, or do we need to consider more extraordinary measures like the COCOM approach that we had during the Cold War?

Dr. Buchanan: I don't know that we need the COCOM approach. I do think we have shown we are willing to act first and make the case to allies and partners and then have them come along. Now, October 7 was a unilateral action.

Mr. Allen: First, yeah.

Dr. Buchanan: But then it was followed by allies and partners coming along. So I think we have been comfortable. The revealed preference at least is that we have been comfortable with that – with that approach. We're not going to design a new regime in the 42 remaining days, so I don't know how the Trump team will want to play it, but I do think certainly our track record suggests that we will not hesitate in the cases where the United States' national security is at stake. And I'm grateful that I think in a lot of those cases, allies and partners have either seen right away or come to see it the same way, and this has been a really true partnership.

Mr. Allen: So in those October 7 export controls, you were trying to restrict AI chips being sold to China so that they could not train the most advanced AI models so that they could not operate the most advanced AI models so that we could preserve our sort of edge in a meaningful sense. These most recent round of export controls that came out on December 2 – so not too long ago at all – expanded it from the logic side of AI chips to

high-bandwidth memory. And I want to understand, because, you know, some folks have said that memory is more of a dual-use technology, the sort of connection to military stuff, the types of justifications that export controls normally rely upon is a little bit more tenuous. So could you just sort of explain why did you feel the need to include high-bandwidth memory in this most recent round of export controls?

Dr. Buchanan: So, full disclosure, this is not a regulation I worked on. But I think the insight here is we want to make sure the export controls and our policy in general is grounded in the technology. I think it is certainly the case if you look at AI chips over the last couple of years to a degree that what was starting to be the case in 2022 but really has accelerated in its significance, the importance of high-bandwidth memory is vital in those chips. So this is a way of getting at a really important part of the ecosystem, including for training large systems that we had not addressed before. So that is probably I think the technical impetus for doing this in that way.

Yeah. And I think it's something that the Trump team will I'm sure look at and say: Did they go far enough? Did they not go – you know, did they go too far? And they can figure out their own take on the technology. But again, this, I think, is pretty clearly the revealed preference of this administration on that particular part of the technical stack.

Mr. Allen: Yeah.

And so the last connection to the export controls is of course these export controls are not exclusively but, you know, principally targeted at China and the Chinese AI ecosystem. But they have effects on the wider world because now places that didn't use to require an export license to receive Nvidia chips or Nvidia's competitor's chips, now they do.

You know, one area where this has come up – and there was some reporting over the weekend in Axios about this – is the UAE, which evidently has now received export licenses to buy a lot of Nvidia chips to build some new datacenters locally in partnership with Microsoft. So I don't necessarily want to ask you to comment on the UAE deal specifically, but I want you to sort of zoom out and think about the higher-level principles that the United States government should be operating under.

You know, when we have these export controls, when we're controlling who gets American-designed chips to build datacenters, what should sort of be the criteria that we use to make those kind of decisions?

Dr. Buchanan: Yeah. I think – I think this is a case where Jake talked about some of this, actually, in the speech where he unveiled the NSM and suggested, I think, that we would have more to say on this. So more to say on this.

But I do think in general it is worth saying we want to make sure above all that chips are not diverted to China. So we want to know some sense of where the chips are going, who is using them, probably have some thoughts on the number of chips, and so forth. But without commenting on any particular report of licenses granted or not granted, I think it is fair to say, you know, our companies have partnered with nations in that region to do some work there, and I think this was a prominent theme of the Saudi AI Day, which I think was in October, that announced a significant Google partnership, and the like. So bearing in mind all of our thoughts about U.S. competitiveness and U.S. lead and doing whatever we can here in the United States, we recognize that there is a degree to which AI is going to be global, and American companies are global businesses, and there's reasons why you'd want to have at least some datacenters around the world. And we are trying to build a policy that allows for that while also making sure we are protecting U.S. interests and making sure that a lot of chips don't end up in a PLA datacenter.

Mr. Allen: Yeah.

And so you – now, I said this was the last question on export controls, but now I guess I'm lying because I have one more. You know, you've talked a lot about – a little bit about unfinished business and some things that might be coming. One thing that I noted was not in the most recent update to export controls was addressing some of the other reports that we've seen in the public. So we've seen reports in The Information and The New York Times about pretty large-scale AI chip smuggling going to China. We've also seen reporting about how TSMC, the Taiwanese semiconductor manufacturer, had been manufacturing AI chips for Huawei and then shipping those back to China, which is just, like, a five-alarm fire in my mind, you know, for how these export controls are going to work.

So I'm curious, you know, number one, how concerned are you by what you've seen that, you know, those types of behaviors undermine the strategic logic of the export controls? I think it's safe to say if they could – if they can infinitely smuggle, then the export controls will not be effective. But you know, from what you've seen, how concerned should we be? Obviously, we want it all to stop, but I'm just trying to see, like, how significant is the impact to date?

And then second, you know, why wasn't something in the export

controls to address smuggling to make it a little bit more difficult? Why wasn't something in the export controls to address, you know, what TSMC did and to make that more difficult in the future?

Dr. Buchanan: Well, this one – this export control is focused on a different piece of the problem. So, again, I'm not sure I would expect to see it here. But it is fair to say, obviously, that, as my Commerce colleagues at the Bureau of Industry and Security are very fond of saying, is you don't dam half a river, right? So there's not a lot of point in undertaking these kinds of efforts if we can't make sure that they are effective.

And not commenting on any particular reports, it's obvious that this is an area where we have to continue to act to ensure the effectiveness. We'll see what we can do before we're done here. Particular investigations into particular companies are not something the White House actually is in the loop on, and, or – and shouldn't be, frankly. This is a –

Mr. Allen: It's a separation of law enforcement and politics, yeah.

Dr. Buchanan: It's been firewalled away from the White House chief of staff's office, as it absolutely should be. So I genuinely don't have an answer for you there.

But this is an area where I think this is something that is fundamental to our policy, is making sure we are enforcing these in a really robust way. And if we – if we don't enforce them in a robust way, as you've said, it will threaten the strategic logic of the policy itself.

Mr. Allen: Well, if I wasn't convinced before, this conversation has crystallized the fact that this was the wrong time to have this conversation because you are profoundly not done.

Dr. Buchanan: (Laughs.)

Mr. Allen: This is not your exit interview. So I'll see you on January 21st, I'm sure, where we can have the real one.

Dr. Buchanan: (Laughs.)

Mr. Allen: But while we are in this period of transition, I wanted to give you the last word and say what is your advice for the Trump administration as they inherit this very difficult, rapidly changing policy portfolio. What's your advice to the Trump administration AI team?

Dr. Buchanan: They are being given, I think, a fascinating task. I think in many respects we have laid a foundation. We have taken actions that we are proud of that I think have enhanced U.S. national security and U.S. competitiveness. But a lot of the really vital decisions on AI, on chips, and the like are still to come.

I happen to think a lot of those are places where even Republicans and Democrats who disagree on many, many things can agree. And we have done everything we can to ensure a(n) orderly, professional transition on these points. But I think the through line in all of that decision-making that we have made and that they will have to make is getting the technical detail and then marrying that to the broader geopolitical implications and strategic implications – so recognizing the importance of chips to begin with, recognizing the importance of AI to begin with, recognizing that it's actually not data that's the new oil but it's this other part of the stack, updating it to include HBM, a lot of what we've done with the intersection of AI and bio or the work of the AI Safety Institute. We have tried to ground our policy as much as possible in the technical, sometimes boring, sometimes prosaic, certainly nonpartisan detail.

And whatever their broader philosophical views, I think there's a lot that will be gained if they – if they do the same thing. And I think even on the broader philosophical front, there's a lot on the national security side here, the China competition side here about which we absolutely agree. And I am more than happy in my remaining time and then going forward to help them get it right for the United States.

Mr. Allen: If they want a meeting, you'll say yes.

Dr. Buchanan: Happy to say yes.

Mr. Allen: (Laughs.) Great.

Well, after this we have the ambassador to the United States from France who's going to deliver our closing keynote, which is extremely exciting. If you could all please stay seated, we're going to just change out the stage to get ready for that session and we'll just be a few minutes. But in the meantime, could you join me in strongly thanking Dr. Ben Buchanan? (Applause.)

(END.)