Center for Strategic and International Studies

TRANSCRIPT
Event
"The Golden Opportunity for American AI featuring Brad Smith – Betting on America"

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FEATURING
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Navin Girishankar: Today we're wrapping our heads around the golden opportunity of American AI with the person best suited to help us do that: Microsoft President and CSIS Board Member Brad Smith.

What does Brad mean when he says artificial intelligence is the electricity of our age? What must we do to harness the power of AI both rapidly and responsibly to drive American economic renewal? And what will make for a compelling American AI offer to the world, especially the Global South?

Navin Girishankar here, and welcome to the Betting on America Podcast.

(Music plays.)

Brad Smith, so honored to have you, sir. Thank you for joining Betting on America Podcast.

Brad Smith: Well, the honor is mine. I'm happy to be here.

Mr. Girishankar: Brad, you've been at the forefront of technology innovation for decades, technologies that have transformed economies and societies around the world. You've also been a really important voice on the role of technology and technology policy, speaking not just to technologists like yourself but also to governments, to universities, to communities, to other partners in industry.

So with that in mind, I was struck by a line in your book. And the book's titled "Tools and Weapons: The Promise and the Peril of the Digital Age," and people should check it out if they haven't. And here's what you say: "When your technology changes the world, you bear a responsibility to help address the world that you have helped create." So, as we navigate the AI technology revolution, tell us what you believe is the role of technologists and technology leaders in helping shape the world that they have created.

Mr. Smith: Well, if I just take AI, I would argue that it will be among the most powerful tools that humanity's ever created. It will help solve a wide array of societal problems. But every tool can also be used as a weapon. And the more powerful the tool then in all probability, unfortunately, the more formidable the potential weapon.

And I think for those of us who are involved in the creation of this technology, we have a responsibility to think about both sides of that coin, and we have a responsibility to take proactive steps to try to mitigate and reduce the risk of harm. I also think we have a responsibility to think about how to make the most of the benefits technology has to offer. Just making it available is a great first step, but it's really important for us to think about

what it takes for that step to be broadly used by everyone so that the benefits are distributed widely.

And what you, I think, perhaps appreciate more than anything when you look at life through that lens is that you can do a lot more than just create a product and sell it to people. You can engage more broadly with the public, with policymakers, but you have to start by thinking about that responsibility and you have to be prepared to acknowledge that everything that you believe in that does so much good can also be disruptive and create challenges for people as well.

Mr. Girishankar: Let's talk a little bit more about that. In your article "The Golden Opportunity of American AI," which also people should read, you talk about AI in the same vein as the printing press and electricity. And that's really, like, really phenomenal when you think about it. But can you make that real for us, for laypeople like myself? How will this technology in concrete terms – give us some examples of how it's going to change our lives.

Mr. Smith: Well, first of all I would say, you know, economists put technologies into two categories, single-purpose tools and general-purpose technologies. Most things in life are single-purpose tools; they do one thing. You can use a lawnmower to cut the lawn, to cut the grass; can't really use it for anything else. But a general-purpose technology is used across the economy. Electricity is the prototypical example. It basically powers everything across the economy if you're talking about manufacturing or office buildings, oftentimes our heating, certainly our lighting. But just think about all of the appliances that are made possible because of electricity. It's a general-purpose technology. AI will become a general-purpose technology. It will be used in a wide array of fields.

And we'll start to see it – just I'll give you a couple of examples. Just say health care. I was at a doctor's office a few weeks ago. There was a nurse practitioner who was with me. And she had no idea where I worked, and she said: If it's OK with you, I'm going to use this new Copilot application from Microsoft.

Mr. Girishankar: (Laughs.)

Mr. Smith: It's going to listen to my conversation with you, and it will then take notes and summarize this, and that way I can focus a lot more on you than having to write things down. Is that OK with you? I said: Absolutely. I trust Microsoft. Let's go for it.

Mr. Girishankar: (Laughs.)

Mr. Smith:	But another health-care example I find fascinating is work that we're doing with the University of Wisconsin School of Health in Madison, Wisconsin. They have one of the largest datasets of chest X-rays, a million-and-a-half chest X-rays. Every one of these has both the X-ray and the assessment and diagnosis of the radiologist. So we've been working with them to sort of pilot a radiological Copilot so that then, when the next chest X-ray is taken of a patient, the radiologist can run it through Copilot and in effect get a first draft. It will say this is our assessment, the Copilot's assessment, and we see a lymph node in the upper-right quadrant. And it'll write that out, and then it will link to that part of the X-ray so the radiologist can look at it and decide for herself or himself whether that's accurate. But you just think about how much more productive that radiologist is. The person spends less time writing things down and can spend more time focused on the image, and even benefiting from that initial information.
So those are two examples from the same field, but their application is actually quite different. And it really illustrates, yes, this is a general-purpose technology; it will be used in lots of different ways.
Mr. Girishankar:	Those are great examples. And I think the GPT – the general-purpose technology – concept is something that we should get our heads around because it will flow through to so many sectors and it'll have an implication for different types of policy. And I think it requires a connecting of dots, I think that you're implying here, that will be really important for government and business.
Let me pull up a chart here because it goes to this point of diffusion of technologies. Colleagues are pulling this up for me. You look at this, and this is basically from our friends at BlackRock Institute. It looks at technology adoption over decades. And if you look at this, you'll have – electricity took 40 to 50 years, telephone 70 to 80 years, cellphones 20 to 30 (years), the internet 20 to 30 (years). The point here is that even for powerful general-purpose technologies it takes some time.
And I just wanted to get your thoughts. I'm reminded of the quote – the William Gibson quote that the future is already here but unequally distributed. And what should we expect with AI? Will it happen faster? Will it go much faster than what you see here in the past? And is that really a matter of policy choice?
Mr. Smith:	Yeah. That's a great graph. I have studied that graph, I think, for more than a decade. Fundamentally, I think you can look at it and ask how long does it take a technology to reach 80 percent of the American public, and you can then put technologies into two categories. One category tends to take half a century, 50 years or more, and the other category tends to take 15 to 20 years.

Now, the first thing that tells you is nothing has ever reached 80 percent of the public in terms of really massive everyday use especially in less than a decade. And that will probably hold true, in my own opinion, because it's all about human habits. People have to find something useful. They have to then change the way they live their life to put it to use, even if it's literally in their hands every day.

So then you ask: Why do some things take a half a century and some things take less than two decades? Well, the technologies that have taken half a century have really required the physical construction of a broad grid. And think electricity and telephones; those are the two examples. And just think about what that required. You had to put telephone poles or lay cables under the ground everywhere in order to get electricity and landline telephony to people's homes. But why did radio, which came out during the same set of decades, take only 15 to 20 years? Because it was wireless. That was actually the definition of it; it was – (laughs) – the wireless. So you didn't need to build that kind of grid. Why did the internet go faster? Because it could use the grid that was already built – literally, typically, a telephone line or the cable TV line that was already underground.

So, now, how does that mean – what does it mean for AI? AI's going to use the grid that is already here, or it will be used wirelessly or by satellite. We won't need to build a new grid. So we should start by saying this is probably more in the 20 years or less category.

Mr. Girishankar:	Yeah.
Mr. Smith:	But I think we should recognize that it still requires a huge investment in infrastructure. It's like having new power plants, now they're called datacenters; they just plug into the grid that's already there. So we have a lot of investment and construction. And then we have a lot of work to do, frankly, to just produce great products that people will say: This is good for my life. I want to use it. I want to change the way I do things. And I think we should assume that this is perhaps the single most important force of technology between now and the middle of the century, until 2050.
Mr. Girishankar:	That is a super enlightening set of reflections there, especially in terms of the categories of technologies or GPTs. That's something that I want to make sure I reflect on, because what I hear you saying is there's a demand-side pull that is going to be important and then on the supply side there are some binding constraints that we need to unlock. We've done some work on the AI stack and in particular the role of energy. And what's really interesting when I read some of your writings and listen to your talks about infrastructure, that is both a matter of policy and also just getting organized, private sector and government, to unlock those potential

	bottlenecks. I've also heard labor could be a bottleneck even in the building of datacenters and providing energy. I'd love your reflections on that.
Mr. Smith:	Well, first of all, I think that's really true. And let's start with the fact that the use of AI requires the creation of really massive datacenters with advanced chips, GPU chips, but it starts with land, big buildings, HVAC systems, cooling systems, and lots of advanced technology that goes inside. So the gating factors – first of all you need the land, but it's really a lot of electricity. So you have to invest.
	You know, as a company that is building as much or more of these kinds of datacenters than anybody else, our first premise is we can't just show up and expect the electricity grid to be diverted to our datacenter. (Laughs.)
Mr. Girishankar:	Yeah.
Mr. Smith:	We have to invest, typically with a local power utility, to create more power. We have to create enough power to equal what we're going to consume or we're going to create a shortage. You know, and that does require a lot of different things, including things that turn on government policy: zoning, permitting. Microsoft has typically between 850 and 900 permitting applications moving forward on any day all around the world. So massive permitting.
	But the other thing that's really interesting is you start by focusing on electricity and then you realize something that becomes self-evident: You can't have electricity without electricians. And you know, for us, electricians play this massive role in all of the electrical work initially, the construction of the datacenter and the electrical infrastructure for it. And we have a shortage of electricians in the country. We're going to have an even bigger shortage, we project, in the decade ahead. And as a country we're not producing as many electricians as we need.
	Now, the good news is organized labor has a great apprenticeship program. The International Brotherhood of Electrical Workers – the IBEW – is really at the forefront of this. They're expanding rapidly. And there's lots of opportunities for us in the tech sector and other industries to work with labor for better forecasting, and I think there's a role for broader educational efforts as well.
Mr. Girishankar:	That's a phenomenal readout of what we should expect if we want to really fully take advantage of the golden opportunity of American AI.
	There's a lot of discussion around CAPEX, and of course Microsoft has made a number of announcements – yourself, Satya Nadella as well. Could you give us a sense of the scale? I mean, we looked at some numbers in our

modeling and they are really large numbers, some as large as 2 trillion (dollars) by 2030. Can you help us put our heads around this?

Mr. Smith: Well, first of all, I think you captured the essence of it. The number's so large it's hard to get your head around it.

Mr. Girishankar: (Laughs.)

Mr. Smith: I think that's part of the challenge.

Mr. Girishankar: Yeah.

Mr. Smith: Yeah. At Microsoft, we've said that we are spending more than $80 billion this year on the building out of datacenters, and that is capital expenditure. So, you know, if you take $80 billion and just, you know, multiply it by five, and if the number stays around there, you know, that would be $400 billion for one company. So, you know, then if you think about other big technology companies, it's not fanciful at all to think about a number like 2 trillion (dollars). I think it's probably fair to assume that overall, you know, somewhere between 50 and 60 percent of that is probably being spent in the United States and the balance is being spent in the rest of the world.

Fundamentally, what it means is that the nature of technology – digital technology, the economics of digital technology, have changed very substantially. I started at Microsoft 32 years ago. The only capital expenditures we really had were for our office buildings and for people's personal computers – their PCs and laptops. Mostly we spent money on employing people. Steve Ballmer, our CEO, used to say, most of our costs walk around on two legs. They're people. And now you just have this enormously capital-intensive technology era. And it has a lot of implications, I think especially for the diffusion of technology around the world.

Mr. Girishankar: Yeah. This is interesting.

Let me shift gears to exports. It's something else that you talked about, wrote about in Golden Opportunity of American AI. You really make a very strong case for the future of AI-enabled services as a driver for U.S. exports. We're in an era where trade balances are an important topic in Washington. A lot of that conversation centers around the merchandise trade deficit that the U.S. has with a number of countries. What hasn't received enough attention is the services surplus we have. Obviously, it's a bit smaller. But when I read what you wrote it kind of struck me that, my gosh, we're just in the early innings of what could be a significant boom in AI-enabled services, as an export for great American companies. But tell me, do I have that right?

Mr. Smith: I think you do have it right. And I think there are a few things worth thinking about. First, the United States has the opportunity to become the world's leading exporter of not just digital technology services, which we are the leader in exporting as a country today, but AI services in the future. And of course, I would argue we should want to be the world's leading exporter because we will create many great jobs in the United States by doing that.

Second, we should keep in mind that when we export services we also do play a role, interestingly enough, in helping to export manufactured goods as well. When I go to a place like Warsaw, as I did in February and announced with the prime minister of Poland an expansion of our AI infrastructure in Poland, one of the things that caught my eye was that the generators that we build outside the datacenter – to ensure backup operations if we lose power from the grid – are made in America. These are among the world's largest generators. And they're made in Indiana and Minnesota. And they're exported to Poland. And that is true not just to Poland. It's basically true on a global basis.

So services in manufactured goods typically go at least somewhat hand in hand. And then you go to this set of questions, what does it take for the United States to be a leader? Well first, we need the support of our own government. We can't have export controls that are so restrictive that it prevents us from bringing these services to other countries. And this has been an area of debate, over the last year in particular.

And second, we need to sustain people's trust. One of the great sort of sets of academic writing was really in the 1980s when people looked at why some technologies became popular and others did not. And, like a lot of research, once you understand it it's grounded in common sense. Technologies become popular if they meet two conditions. One, they're useful for people. And second, if people trust them. We need the world to trust American technology. And we need the world to trust American technology even at a time when trade relations are, let's just say, a bit frayed. We need to sustain confidence that the world will have access to American technology.

And the cautionary tale, I believe, is what happened in the telecommunications equipment space. This was an industry that was pioneered in America, you know, by Bell Labs, by Western Electric, by others. But eventually, the Chinese basically drove American and European telephone equipment suppliers – especially in, say, 4G and 5G technologies – for all practical purposes, out of the entire continent of Africa. And they

did it by subsidizing those technologies. And we have to get, in my view, to the rest of the world first. And we have to sustain people's trust.

Mr. Girishankar: Yeah. Such great insights. I got a set of questions that flow from that. Let me first ask you, look, there's a legitimate debate around export controls. And you know, when you talk about what you've written about in Tools and Weapons, the power and the danger – the power and the danger. I think it's a real thing. And we probably see the pendulum swinging in different directions here. You've been around this for decades. Can you help us – how should we think about that? How should we balance these two challenges when it comes to export controls, especially when you have technologies that could be used to undermine our national security?

Mr. Smith: Well, it's such a good question, and it, I think, is even so timely. First of all, I agree with your premise. We need to ensure that this technology is exported to the world in a safe and secure manner. That needs to be the goal. We know this can be done because it has been done, literally since the 1950s, for nuclear power plants. The U.S. Congress adopted legislation. The U.S. government has negotiated treaties. They're called 123 Agreements, after the section of the law that they were authorized in. And those treaties are in place in more than 50 nations that have U.S. nuclear power technology in a way that ensures that they're not used to create nuclear bombs and that the raw material is not diverted to another country.

And just think about it. At a time when the U.S. military literally needed to take action to try to address the threat of nuclear proliferation in Iran, you know, that regime has worked well for seven decades. So take that as an intellectual template, if you will. And that's what we've advocated in Washington. That was the grounding, if you will, for much of what we put in place last year for the relationship between the United States and the United Arab Emirates, and between Microsoft and our technology partner there, their sovereign technology company G42. And you put in place the same kind of controls. You have a trusted cloud, a trusted datacenter. You have American companies partnering with others. You make it possible for other great companies, like a G42, to qualify as well. And then you ensure that technology can be exported with the kinds of safety and security that people rightly should expect.

Mr. Girishankar: Yeah. And the partnership in the UAE is a really interesting development, particularly under the Trump administration. Something that has been in the works for some time but really powerful compute capabilities available in the GCC in exchange, in a sense, for an investment partnership that is really quite significant and historic. How should we understand this? Is this a beginning of something that we will see in other places as well?

Mr. Smith:	Well, first of all, I believe and hope it will be a beginning that, you know, will advance economic development and prosperity and societal good in the Middle East itself, in places like the UAE, and Saudi Arabia, and Qatar, and the like. But I also think that it is a partnership that the United States and a nation like the UAE can then build on to help bring technology to other places as well.

I think one of the things to remember is that any technology that especially relies on the building out of a grid or a lot of infrastructure investment tends – going back to your comment earlier – to be distributed unevenly. You look at the history of electricity in the United States, the market and market forces brought electricity to all of the nation's cities, but left out many of the country's farms. And it took a level of government involvement and a lot of financial innovation in the 1930s to reach all the farms in the country. If you look at the map of the world today, you realize that electricity – which has been around since 1878 – still fails to reach 700 million people, including 43 percent of the population in Africa.

Well, how do you take AI, which requires electricity, and bring it to countries and to people that don't even have electricity? We need financial innovation. And I think that financial innovation involves a couple of things. One is a financial and technology partnership, as we are advancing, say, between the United States and the UAE, Microsoft and G42, so that G42 can build out datacenter infrastructure in Africa. And we need to get countries in East Africa comfortable, I think, with a level of shared data usage, so that the demand will stimulate more investment and more technology availability much faster.

But I think there's likely to be a second dimension as well. I think there probably will be a need and a role for development finance, you know, for the U.S. government to play the kind of role it has long played, for institutions like the World Bank to play the kind of role they've long played. We need to put technology and countries and financial institutions together so that American AI reaches Africa before Chinese AI rules the continent.

Mr. Girishankar:	So, Brad, you talk about the U.S. tech offer, or the U.S. AI offer to the Global South. You've given a really compelling example of the partnership between Microsoft and G42 in Kenya and how that is really enhancing our competitive advantage relative to the PRC. And let me bring up a chart, if we were to zoom out from that example to the global opportunity for the United States across developing countries. This chart plots AI optimism, which is really survey responses from an Ipsos survey poll which was asking respondents in developed and developing countries how optimistic they were about AI-enabled services. And we plot that against the IMF's AI

	Preparedness Index, which looks at different things like infrastructure, human capital, regulation, readiness to really support AI diffusion.

And what you see here, which is really striking, is a high level of optimism among developing countries for AI, but none of them are at the top of the preparedness chart. That shouldn't be surprising but, actually, the difference between optimism and preparedness is actually a huge opportunity. And I think that this might be what you're getting at when you say that U.S. AI offer to the developing world is just getting started. |
| Mr. Smith: | I think we should think about it that way. And I think we should keep in mind that there's three layers, if you will, to this competition. First is all the pieces, as you said – the chips, the infrastructure, the datacenters, the platform services, and the like. And we should recognize that the United States currently has in every area technology that is as good or better than what China has to offer.

Second is the packaging. And we should recognize, as you said, that China may have outplayed the United States in the past in packaging. And so let's do a better job of packaging ourselves. And that's, in effect, what Microsoft and G42 in the U.S. and UAE have started to do. Let's continue to move in that direction. And then let's remember the third dimension of this competition. The dimension in which, in my view, the United States has the most important competitive advantage, and we must protect it. It's trust.

Traditionally, people elsewhere in the world have been more comfortable and confident trusting American technology, our commitment to security, to privacy, to digital safety, to responsible AI, to respecting their sovereignty. And while there are very important trade issues that I think, quite rightly, are getting the attention they deserve – tariffs and the like, and non-tariff barriers – let's make sure as a nation that we raise the problems that need to be addressed, while also preserving and protecting the trust that we have literally taken decades to build up. Because if people lose that trust, we will be set back when it comes to what it takes to being the world's leading AI exporter. |
| Mr. Girishankar: | So eloquently stated. So powerful. If people were putting a question mark behind the phrase "golden opportunity of American AI," you've thrown down an exclamation point. And I think that this is really exciting, what you're saying. And I would really encourage folks who listen to this to read your book and read the article that you put out. We are going to keep watching what Microsoft is doing. And, importantly, as a public voice on these issues, listening to what you have to say. And I just really am honored that you took the time to join us, Brad Smith. Thank you so much. |

Mr. Smith: Well, thank you. Look, the pleasure is mine. The privilege is mine. I appreciated the conversation.

Mr. Girishankar: Thank you for joining us for this enlightening conversation with Microsoft President and CSIS Board Member Brad Smith. You can find this episode and more on CSIS.org, YouTube, or wherever you get your podcasts. I'm Navin Girishankar, reminding you that everyone has a role to play in the tech race.

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