TRANSCRIPT OF EVENT

Digital Diplomacy: Building Solidarity in Cyberspace

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INTRODUCTIONS

Audrey Kurth Cronin: Hello. Thank you so much for being here. I'm so pleased to see all of you here tonight for this event on digital diplomacy. I'm Audrey Kurth Cronin, Trustees Professor of Security and Technology and Director of the Carnegie Mellon Institute of Strategy and Technology, or CMIST.

Our institute is committed to advancing the thoughtful development, application, and governance of emerging technologies that are shaping the future of war and peace. At the heart of its mission, CMIST bridges together the study of social sciences and policy on the one hand with Carnegie Mellon's cutting-edge advances in computer science and engineering, building on the innovative tech industry right here in Pittsburgh.

Now, before I get into the rest of my short introduction, just because I'm a little bit afraid that we may run out of time at the end, I would like to recognize my team that is here. They have been working very, very hard all day. So if you are a part of the CMIST team, can you stand up please, and we'll give them a round of applause.

[Applause]

Thank you, thank you so much. I have the best, most dedicated, most wonderful team, most wonderful people. And everything that's gone well is down to them. Things that have gone badly are down to me.

Tonight, I'm thrilled to convene an impressive panel, including Ambassador Nathaniel Fick, Minister Paula Bogantes Zamora, and Ambassador Benedikt Wechsler, for an engaging discussion on digital solidarity. This concept speaks directly to the core of CMIST's work - collaborating across sectors to strengthen digital systems and cyber capabilities. It's about preparing our partners to not only build secure, resilient ecosystems for the future but to respond effectively to the challenges that arise in our interconnected world.

Before we dive into tonight's discussions, it's my great pleasure to introduce someone who exemplifies the spirit of innovation and leadership that we aim to foster: Carnegie Mellon's Provost and Chief Academic Officer, Jim Garrett. Prior to this appointment in 2019, Provost Garrett served as a member of the CMU faculty for over 20 years before becoming Dean of Carnegie Mellon University's College of Engineering in 2013. Provost Garrett is a lifelong Tartan, having received his bachelor's, master's, and doctoral degrees in civil and environmental engineering from CMU. Among his many recognitions and awards, Provost Garrett was elected to the National Academy of Construction, is a Fellow of the American Association for the

Advancement of Science, and is a distinguished member of the American Society of Civil Engineers. Now, please join me in welcoming Provost Garrett.

[Applause]

Provost Jim Garrett: Thank you. Can you all hear me in the back? Good.

Thank you. Thank you, Audrey, for that very kind introduction. Thank you for your continued leadership of CMIST, which is a program that we are all very proud of to have here at CMU. And we certainly appreciate your stellar leadership. Let's give Audrey a hand.

[Applause]

And I echo Audrey's very warm welcome to the many guests and friends here with us today. I've definitely enjoyed our table conversation - getting to know you. Thank you so much. I think you're all in for a great treat as we hear what they have to say.

I'm also delighted to see members of Carnegie Mellon's leadership Team here, past and present including our former provost Mark Kamlet, Tim McNulty - where's Tim? I saw Paul Neilson, our director and chief executive officer of the Software Engineering Institute. By the way, Tim is our associate vice president of government relations. I didn't give his title Keith Webster, our Dean of University Libraries. Where's Keith? There he is over there. And Isabelle Bajeux, our Dean of the Tepper School of Businesses is here. And if I've missed any Deans in the room, I certainly apologize. I did look around and try to make sure I acknowledged everybody. Thank you all for being here tonight to support Audrey and CMIST and our speakers, our keynote speakers who I'll introduce in a moment here, but let's give this group a big warm round of applause.

[Applause]

So we're also pleased to have Lieutenant General Jim Richardson with us here tonight. Lieutenant General Richardson is a member of our CMIST team, our CMIST family as we were talking about before, and you know was the architect of the Army Future Command and helped to establish the AI2C at Army AI Center here. And let's give Jim a really big round of applause.

[Applause]

So Carnegie Mellon is a place that is known for its strong programs in the arts, groundbreaking computer science and scholarship and research, expertise in public policy as well as innovation at the intersection of all of these areas - and many other disciplines as well. It's also known as a place for not just solving problems, but solving these problems in a societal complex. We were talking about this at the table tonight that we're not happy with just sort of writing a theoretical paper, but rather we want to test it out in the real world. We want to see that it works under extreme circumstances, not just those that are perfect.

And so, in Pittsburgh a city that has historically demonstrated its ability for dealing with some significant problems, back when you know we were developing the steel industry and then when the steel industry was collapsing Pittsburgh didn't just throw up its hands and give up. We determined how to move to a new phase of economic growth. And CMU embraces this and was part of it. And you know, collaborates with industry and the community to drive innovation and entrepreneurship. We view ourselves as part of this important community and are quite proud of it. And to that end, we're truly delighted to be participating in tonight's discussion and conversation around digital diplomacy and policy. The concept of digital solidarity, solidarity and building interconnected ecosystems to foster secure growth, is an idea that very much aligns with our own mission here at Carnegie Mellon University - to have a transformational impact on society through research, education, and entrepreneurship.

So now it's my pleasure to introduce our keynote speaker for tonight. Nathaniel or Nate Fick, the inaugural US Ambassador at Large for Cyberspace and Digital Policy. Ambassador Fick's career spans technology, National Security, and public service. As CEO of the cybersecurity company Endgame, he led the firm to a successful acquisition by Elastic in 2019. His leadership in tech earned him recognition as one of *Fast Company's* 100 Most Creative People in Business. Before his tech career, Ambassador Fick served as a Marine Corps officer with combat tours in Afghanistan and Iraq. And his bestselling book, *One Bullet Away,* offers a compelling account of his military experience. Ambassador Fick served as CEO of the Center for a New American Security and as an operating officer at Best Venture Partners. He graduated with honors in classes from Dartmouth and holds Advanced degrees from both Harvard's Kennedy School and Harvard's Business School. Today, Ambassador Fick brings his deep experience to a conversation around critical cyber space and digital policy issues. I had the chance - a very enjoyable hour - to spend with Ambassador Fick earlier today and to learn about his unique vision for this space and what he wants to try to accomplish with this work. And I'm excited to hear him speak and to hear more about this alongside with our panel who is here tonight as well. So please join me in welcoming - with big Pittsburgh and Carnegie Mellon welcome Ambassador Nathaniel Fick.

[Applause].

KEYNOTE

Dr. Garrett, thank you. Dr. Cronin. thank you. Thanks to the other Dr. Cronin too, in absentia, the one who first introduced us, Audrey's husband, Patrick, a former close colleague of mine.

I am thrilled to be with you tonight and thrilled to be at Carnegie Mellon. I'm a little daunted by being a speaker before a panel. I've often been a speaker before the bar is open. A speaker before the panel suggests not to optimize for insight, not to optimize for humor, but to optimize for brevity, which I will try to do.

I do want to start though with a warm welcome and sincere expression of gratitude to my colleagues - Minister Paula Bogantes of Costa Rica and Ambassador Benedikt Wechsler of Switzerland. There is no clearer example of what digital solidarity looks like than the fact that they are in these seats tonight.

And trust me, in the reciprocal case, if - when, not if - but when they call and ask for me in San Jose or in Geneva or Bern, I'm there too. That's how this community works and it's what we're talking about when we use the term digital solidarity. So everywhere I go, every city, every region, every country is trying to build an indigenous tech economy. People know that this is the future. This is how you generate and sustain tax revenue. It's how you keep your young people from moving away. And we have a pretty good read at this point on what the constituent ingredients are of a successful tech ecosystem. And two of the most essential of course are education and a capable workforce.

So, Carnegie Mellon obviously plays an absolutely central role in that not only in Pittsburgh but in the United States - and not only in the United States but across I think our like-minded economies that are trying to work together to get things done in the world. And I speak with a little bit of firsthand knowledge because I actually live in a city that's not unlike Pittsburgh. I live in Portland, Maine. A city where economically sometimes it's easy to think that it's best days were behind it. And we have legacy Industries there like lumber and paper and fishing and we have universities that are bringing innovative technologies to transform those legacy industries while also trying to attract companies and build new businesses in new areas. My wife happens to lead one of those universities and so the dinner table conversation andoffice conversations that we were having today resonated with me in a very personal way.

I thought though, that maybe I'd say a few words about digital diplomacy and a few words about the world. At least the world as it is from my seat at the State Department, leading the team that oversees America's technology around the world. On digital diplomacy. So the theory of the case, for us in the United States in setting up the role that I now occupy and setting up a lot of our other technology roles in diplomacy, foreign policy, National Security - the theory of the case is that tech innovation as a source of national influence is increasingly foundational. And we mean something specific by that. Many of the traditional measures of strength that we're all accustomed to like GDP are more and more downstream actually of an economy's ability to innovate and lead in these core technology areas. And if that's true, then one, we better be certain that in domestic terms, we're doing what we need to do in order to encourage the creation and the growth of these businesses, of this foundational research, of the training of the workforce, all of the pieces that undergird that economy.

And then out in the world, we better be doing everything we can to make sure that those technologies are deployed and used in ways that align with our values. And with the - some of the core foundational points that unite the United States government, the Swiss government, the Costa Rican government when we in the world are talking about these issues together. So to that end, the United States, we wrote over the past year, an international strategy for cyberspace and digital policy for the United States. Congress mandated that my office write it and that strategy is really undergirded by three principles.

The first of them, we actually talked about with some journalists earlier, the first of them is what we call an affirmative vision. In a world where maybe there's some fragmentation happening, some vulcanization happening in the tech landscape of the internet - rather than pounding the table and saying it's our way or the other guy's way - it's actually the responsibility of the United States and the responsibility of our allies and our partners to offer a better alternative. To say, like - we actually have a more compelling vision for

what good tech can do in the world for our citizens. It has to be inclusive, it has to be positive, it has to be attractive, it has to be affirmative and so we do start with that affirmative vision.

I will say that the kind of foundation of it, for us, it has to be grounded in human rights. It has to be grounded in the rights, respect, and use of technology., I will offer thanks to our Swiss colleagues in this regard. The Swiss by virtue of history, geography, choice and - have become one of the world's facilitators of these kinds of conversations. And even on a personal level, the recently departed Swiss Ambassador in Washington, Jacques Pitteloud, would convene these dinners, use his convening power and and very kindly on my behalf bring me and then invite ambassadors from across the African continent or from across southeast Asia, from across Latin America and facilitate a conversation about human rights and tech. And there was no better way to be able to articulate an affirmative vision than in that kind of setting.

The second principle underlying the strategy is that we actually have to think about the whole tech ecosystem. Like the full stack. We say from cables to cloud. So historically the US has talked a lot about cyber security on your laptop, on your desktop, on a server - you know maybe on a mobile device. But we need an integrated strategy that deals with undersea cables and terrestrial fiber and wireless networks and data centers as things virtualize like cloud computing, lower orbit satellites, kind of that whole spectrum because risk federates across all of those relationships.

The third principle underlying the strategy is this notion of digital solidarity which in fact is the North Star for the whole thing. It's the simple notion that no country, no matter how powerful, no company, no matter how secure its leadership position appears, none of us can go it alone. These technologies are intrinsically transactional; they cut across National borders. They also cut across every aspect of our lives, every aspect of our foreign policy. There's no multilateral forum in the world anymore, no bilateral relationship, no functional topic from climate to arms control that isn't being fundamentally transformed by emerging technologies.

And the - so when we talk about digital solidarity, the - I think back to one of the last things that I wrote as a private citizen before coming into the government, which was the first sentence in a Council on Foreign Relations task force report on cyber security. The first sentence of that report was "the era of the global internet is over". It's not the kind of definitive statement the State Department likes to be making, or it's not the kind of thing one would say if you were going about to embark on a senate confirmation process, but the future is unknowable. We published the report and I actually think it's unfortunately true. It's not the future we want, it's not the future we're advocating for, but it's the future that we're increasingly getting.

And so in that world - back to the affirmative vision - we need to make sure that the group that subscribes to a fundamentally rights respecting view of how technologies are developed, deployed, and used is as big as possible. And the - one of the absolute shining exemplars of this inaction and I'm not going to say much about this, I'll leave it to her on the panel, has been the leadership of Minister Bogantes and President Chavez in Costa Rica in the face of incredibly difficult circumstances. A terrible ransomware attack that could have caused a government to crumble, but instead actually caused the government to stand taller and

stronger and become an example, a protector of its own citizens and an example to a region. And I hope you say a few words about that later.

So those are the principles undergirding what this strategy, this American strategy, seeks to do. And I thought maybe I would like to spin the globe for a second and talk about five places quickly where we're doing this. And I'm not going to talk about Switzerland. I'm not going to talk about Costa Rica because it's not my place to do that, so - but this is happening kind of everywhere and all the time.

And so the five that I would mention - First, New York. And we have to go back in time. It's easy in cyber security to criticize norms and say - ah you know we waste all this time developing norms, but our adversaries don't care about norms. So why do norms matter? I actually think the normative foundation - that ground gained diplomacy has built over 20 years is kind of our superpower. And what I mean by that is, over the course of a couple of decades at the United Nations, the UN collectively, with some American leadership at different points, but this is consensus process - developed a framework for responsible state behavior in cyberspace. Which is a normative foundation for how countries behave in the digital world below the threshold of the use of force - which is hopefully most of the time. And that framework was a one yard and a cloud of dust kind of development over a 20-year period. It resulted in a pretty robust set of norms.

The Russians do not abide by that, the Chinese do not abide by them, the Iranians do not abide by them, the North Koreans do not abide by them. And they still matter. The norms still matter. The fact that they exist, the fact that every country in the world has publicly and repeatedly affirmed them gives us moral authority that matters in terms of holding the line on normative behavior. So, New York.

The second city that I would mention - a place I would mention is Beijing. I joined Secretary Blinken on a trip to Beijing not long ago and spent the better part of a day with the Chinese foreign minister, Wang Yi. And had a, I can't quite call it a conversation, had an exchange of views on Chinese behavior in cyberspace. And we've been very public about this in many places, before and since. So, the PRC government is using cyber capabilities to hold the critical infrastructure of the United States at risk and the critical infrastructure of our allies. In ways that are fundamentally not about intelligence gathering, but are about prepositioning for destructive attacks. It's dangerous, it's escalatory, it's not acceptable. And that discussion needs to continue. But make no mistake, there are, despite having both affirmed the framework for responsible state behavior, our government and their government view this differently. And that is a discussion that's going to play out, I think, over a future that we're all going to have the joy of living through.

The third place is a little bit more off the beaten path, and that's Bletchley Park. An English country house outside London that was the home of the fabled code-breaking efforts during World War II and was used by the British government to host the first AI safety summit just about a year ago, where governments from around the world came and began the discussion, in the chat GPT generative AI era, of talking about what these technologies are going to look like. How are we going to govern them? What system, what metaphorical operating system is going to prevail? And I'll just tell you the US view on this was - back to my foundational point, which is tech innovation as a source of national influence is foundational - the thing we

didn't want to do was constrain the innovative engine of the American economy. And so the White House started with voluntary commitments, a set of commitments in safety, security, and trust that the leading AI developers agreed to voluntarily. Voluntary mattered for two reasons: one, by definition, it doesn't constrain innovation; two, it's fast, and given the pace at which these technologies are developing, we couldn't get into a long regulatory swirl while the companies moved out without us. So, the voluntary commitments were never intended to be the last word in AI governance, but they were a pretty good first word. And we took them and began to internationalize them and multilateralize them at Bletchley Park a fable historic place to do it, and at the G7 where they became the basis of an international code of conduct for AI developers that now, in the year ahead, we could then push out to wider places, like the OECD perhaps would be a good one, in collaboration with our partners.

The fourth place I would mention is Chișinău. I'm looking at my colleague, Jair, back here, who by the way said to me that he is in technology diplomacy because of Dr. Cromin, a former student of Dr. Cronin's. So, I offer my profound thanks. Chișinău, so Jair and I were in Chișinău not long ago. It's the capital of Moldova. Moldova is interesting because it's on the far eastern flank of Europe. It's not in the EU, it's not in NATO. And when you're standing on the street in Chișinău now, you're closer to the front lines in Ukraine than you are to Kyiv. The Moldovans have a pair of elections at the end of October: one is a reelection of the president, Maia Sandu; the other is a referendum on EU accession. So, the Moldovan people are at a fork in the road. The Russians are exerting every possible form of influence to influence the decision that the Moldovans make. And that includes cyberattacks, it includes information operations, it includes more kinetic things that cross over into the real world. We're working very closely with the Moldovans, with some companies, with some other states, to help ensure that that election reflects the will of the Moldovan people, not the will of the Kremlin. And that is another good current example of digital solidarity in action. I encourage you to watch the newspaper in the latter half of October because what happens in Moldova is a pretty good bellwether for what's going to happen elsewhere in Europe and then, and then perhaps even further afield.

And the last geography I'll mention, just to keep this spinning of the globe, is Tuvalu, an island northeast of Australia, between Australia and Hawaii, with a population of 11,400. Tuvalu has been a really significant place in our work in the last couple of years because Google, driven by market demand and their own desire to get access to their markets and build resilience into their global information architecture, is laying about 25,000 kilometers of undersea cable across the Pacific.

And this is a beautiful project because again, not a single government dollar involved, Google's doing this no matter what they're using trusted cable, they're using cable built by a company called SubCom in New Hampshire. And these trunk cables are huge, multi-billion dollar projects. This one happens to run very close to about a dozen Pacific Islands, including Tuvalu. And what the United States and Australia, New Zealand, and Japan, and Singapore, and a few other governments are doing, is coming together in order to fund, not the big expensive cables, but little branching units that we can put onto the cable in order to run a spur to connect small islands. So, for a very small investment of taxpayer dollars, all of a sudden, you connect the 11,400 people on Tuvalu, who would not otherwise have been connected to the digital economy. It's a truly incredible story of digital solidarity and preempts the buildout of PRC infrastructure across the Central and South Pacific.

So, just a few examples of digital solidarity in action. And maybe just in closing, to bring it home, the US foreign policy, I suspect this is true of any country's foreign policy, is never any stronger than its policy at home. And so, our foreign policy on any of these topics will never be any better, any more coherent, any more just or right than what our domestic approach is. And all that we can do is reflect, externally, whatever is happening here, whether that's good or not good. And so, I'm really proud to be at Carnegie Mellon because Carnegie Mellon is one of our implementing partners at the State Department. We work with Carnegie Mellon through SEI on supporting a global network of C Certs, among other things. We're talking about how we can better link up our institutions to help train diplomats over time. And my final point is we need your graduates in public service. Not just building the next hyperscalers. So, it's possible to do both. And over the 40-year or maybe more - arc of any of our careers, I would just encourage any of you in the administration, on the faculty, or any of you who are leading businesses or pieces of businesses here in Pittsburgh, encourage your students, encourage your employees, or you yourselves, to take a stint. It could be two years, it could be 20 years, but it's essential. We need it. I suspect the Costa Rican government, the Swiss government need it too. We all need our fellow citizens with tech expertise, with commercial experience, to support our common objective of building digital solidarity in the 21st century. So, thank you. It's a great pleasure to be here, an honor to be here with my colleagues. I look forward to this conversation.

[Applause]

PANEL

Audrey Kurth Cronin: Well, thank you Ambassador Fick for that wonderful keynote address. It's just remarkable how the listing of things around the world can bring out so many important points. I didn't know where Tuvalu was. Provost Garrett turned to me and said, 'What, what, what, what did he say?' I had no idea. So, thank you for educating me and for sharing your tremendous knowledge and for the work that you are doing. It's so incredibly important to the world and to our country. Thank you.

I'm very excited to continue our conversation on many of the topics that you just spoke about with our esteemed panelists. So, let me welcome to the stage Minister Paula Bogantes Zamora, Costa Rica's Minister of Science, Innovation, Technology, and Telecommunications, and Ambassador Benedikt Wechsler, Head of Division for Digitalization at the State Secretariat of Switzerland. And if you don't mind, Ambassador Ficky coming back up here again. If you don't mind.

[Applause]

All right, let me just properly introduce our other two honored guests tonight. Minister Paula Bogantes Zamora is Costa Rica's Minister of Science, Innovation, Technology, and Telecommunications. Prior to this role, she was the Vice Minister of Foreign Trade and was President of the National Trade Facilitation Council. Her experience includes managing key sectors at the Costa Rican Coalition for Development Initiatives and consulting for the Inter-American Development Bank, where she focused on innovation and competitiveness. Minister Bogantes Zamora is passionate about attracting foreign investment to tech-driven industries like cloud computing, cybersecurity, aerospace, and medical devices. Welcome, Minister.

[Applause]

Ambassador Benedikt Wechsler is Head of Division for Digitalization at the State Secretariat of Switzerland. His diplomatic journey began in the Swiss Federal Department of Foreign Affairs, where he held key roles including posts at the permanent mission of Switzerland to the UN in New York and to the EU in Brussels. He was Ambassador to Denmark, where he pioneered the award-winning Open Embassy approach and served as Consul General in San Francisco, advancing tech diplomacy in Silicon Valley. Since July 2021, he has been leading the Division for Digitalization at the State Secretariat, implementing Switzerland's digital foreign policy strategy. Welcome, Ambassador.

[Applause]

Do these mics work? Alright, excellent. So, this is a panel on digital diplomacy, and I'd like to start with a question for Minister Paula Bogantes Zamora. Can you tell us about how the international community worked with the Costa Rican government after the devastating Conti Group cyberattack in April of 2022, and how important was it to work with key allies in the aftermath of that attack?

Minister Paula Bogantes Zamora: Yes, thank you so much, and thank you everyone for joining us tonight. This is something that Ambassador Fick and I discussed a number of months ago, probably in Costa Rica, and I told them that I was a big fan of CMU and that it would be great if I could participate in our panel. So, thanks so much, Ambassador Fick, and thanks so much, CMU, for fulfilling this dream.

So I'll give you a little bit of background. Costa Rica went through a very hard cyberattack in April 2022, and it happened during a transition between the previous administration and us coming into the government. So, the time wasn't that—it's never a good time to get a cyberattack, but especially when you're transitioning from one administration to the other. So, that brought a lot of—that was a big challenge for us. One of the first things that the president did was he declared a state of emergency. And it was the first time in Costa Rica's history that the country was declared under a state of emergency due to a cyberattack. And he did that in order for us to get assistance faster, have the assistance be able to go in and help us do the forensic analysis and all that, avoiding many permits and a lot of documents that needed to be filled out in order for companies or governments to have access to our institutions.

There are a number of magazines and industries in the cybersecurity industry that have said that the attack that we went through in 2022 was considered the hardest attack a government endured during that year. We had, as a government, we had to pay $25 million in order for us to gain back some of the data and bring back some of the servers. Nine institutions, government institutions, were affected. We had to reschedule over 158,000 healthcare appointments because the attack hit especially two of our dearest institutions: one is the healthcare, there's an institution that oversees the administration of all of our public hospitals, and as you know, Costa Rica has a universal healthcare system, so we invest a lot on healthcare. And the other institution that was heavily attacked was the Finance Ministry. And we had to go back to paper, so that put a lot of stress on finance and healthcare, especially.

We had sensitive data lost. We were running a number of researches on cancer and we had been doing so for a number of months, and that information was lost. And just—I will say one of the biggest losses was not so much the money that we had to put to get that data back, but that we had to stop providing services to Costa Ricans on healthcare. And I think that's where the highest cost was, you know, where we view the highest cost was actually damage to our institutions. So, we're a country that—we don't have an army since 1948, and never in our wildest dreams did we ever think that anyone would be interested in us. Right? We're no military threat to no one. So, why would anyone want to cyberattack Costa Rica? We talk about things that maybe are not of interest of other countries. So, this is a wake-up lesson for everybody, for all governments, right? And it certainly was a hard lesson for us to learn.

So, when the attack happened, a number of countries came to our rescue. One, the United States. Israel also came to our help. Spain and other countries, you know, opened up to or they were available to come and help. I have to say that we would have not been able to sustain the damage or to control the damage and to be able to get the data back and bring our services back—it took us four months to do that—without the help of the United States and without the help of the private industry. We have a number of companies in Costa Rica, U.S. companies with very sophisticated operations in Costa Rica, IBM being one of them—they have the largest security, so outside of the US, in Costa Rica. So, they came to our help. And ever since then, shortly after, the United States confirmed a collaboration of $25 million through the Department of State and $9.8 million through the Department of Defense. And we have been working together ever since then to make sure that we are prepared, that we are protected, that we can monitor our institutions, making sure that this doesn't happen again. And I always say it when I'm talking about this: sure, the money is great, I'm not saying that I'm not thankful, but the thing that has been the best is to be able to collaborate with some of the the best agencies on cybersecurity in the world, the knowledge that we've been gaining, the working hand in hand, them letting us—one of the first things we did is we had to have a vulnerability test of the institutions, what's the state of the institutions, how well or not well protected we were. So, we had a better idea as to what did we need to build on top of the state of the institutions. So, all these processes, then deciding which company we have, which services we had to implement, what strategy we have to implement, all of that has been done with the help of the US. And again, this talks about digital diplomacy, collaboration amongst nations, us leveraging from the knowledge of the United States. And it's been, I would like to, I hope Ambassador Fick agrees with me, to say that it has been a very successful collaboration between Costa Rica and the United States, so much so that now other Latin American countries are coming to us to help, to ask for help, to ask for us to share the knowledge, for us to tell them how we have done it so they can do it the same way. So, again, I think it's a great example of digital collaboration, international collaboration, a small economy like Costa Rica leveraging from a huge economy like the US who has a lot of knowledge on something that we were lagging behind. And hopefully we will be better prepared should another cyberattack happen.

Audrey Kurth Cronin: Ambassador Fick, did you want to add anything about that experience?

Ambassador Nathaniel Fick: Just only very briefly, that it's very much a two-way street, that I think in these kinds of engagements, the US and our agencies and practitioners on the ground learn as much as we teach. I mean, it really isn't—these are collaborations, and it's not charity, that's really important to understand.

These are investments in partners, who we need to be strong and capable, and in our hour of need, they're there for us too. Remember, NATO, just to use one example, has invoked Article 5 exactly one time, and that was on September 11th.

Audrey Kurth Cronin: Wonderful. Ambassador Wechsler, can you tell me—tell us—about Switzerland and the role that Switzerland plays with respect to international digital governance and cooperation? What is Switzerland's strategy in this area?

Ambassador Benedikt Wechsler: Thank you very much. And you know, maybe at the outset also, I'd like to thank Nathaniel Fick for his invitation. I told him that I really thought a long time about should I really do this trip. I mean, not only is my bowtie green, but I really think it's important that we should travel wisely. And now, after one day in Pittsburgh, my first day in Pittsburgh, I thought it was worth it. And maybe just for three reasons: I went running this morning and I saw this cathedral. And then I learned this is the Cathedral of Learning. Wow, what a great idea! You know, to build a Cathedral of Learning in the middle of a city. I mean, congratulations. That's fantastic. And then, you know, we were talking about solidarity and charity, and also between Switzerland and the United States, there's the openness that we have and the trust that we have has led to so many good gifts and takes. I learned, you know, that our head of the AI center of the ETH in Zurich has made his PhD here at Carnegie Mellon University's School of Computer Science. He was our representative in the UN High-Level Advisory Body on AI. I mean, that's—we would have never been able to put a diplomat in there. But because he, you know, he's a respected scientific leader in that area. So thanks to the university here. But we gave back also something: a young student, Severin Hacker, came here and he co-founded Duolingo. You know, so it's, it's a give and take, and I think that's also what we in a way have to cherish a little bit, that this is how we can learn from each other.

I think the strategy also reflects a lot of the core that Nate was also presenting of the US strategy. I mean, we have four, our four action fields. One is cybersecurity because there was a saying, 'There's no development without security.' I think there's no future development without cybersecurity. So that's really something where we work a lot. You know, we have—you were mentioning the OEWG with the responsible behavior in cyberspace. We launched a Geneva Manual about how the private sector can contribute to this, not only the states but the private sector. We have an action field very much focused on sustainability because we're convinced that, I mean, the digital technology and new technologies, they can probably give the critical contribution also that we can save human life on the planet. Also when we look at what has been agreed now at the UN, the Global Digital Compact, which really focuses everything on how can the digital age also serve all the SDGs that we have adopted. And we have the one action field on digital self-determination, which is a lot on human rights where we work together on the Freedom Online Coalition. And then the last thing that you were mentioning also was digital governance. I think this is something where we really want to make a service to the international community, that we can offer a place in Geneva where we have more than 50-60% of all norms and standards that you, that we need to have together in order to make this global digital world work, are there. And again, it's in Geneva, not because we invented it, but because at a certain time President Wilson decided that we should have a League of Nations in Geneva, and that later on developed into the UN and the seat of a lot of technical organizations.

And I think looking into the future, because as you say, you know, the digital technology and new technologies have become so relevant and critical to our daily lives, they've also become of course more contested and more, we call maybe geopolitical. I think that's something there, where we have to have a space to discuss and debate, and not agree, but that at least that we try to understand, and that we can try to minimize risks and potential problems. And that's what we want, to be a platform with the Swiss digital diplomacy. And again, you know, if you want to do this, you have to understand technology. I didn't know three years ago what red teaming is. I mean, we know red tape, but that's red teaming. You have to understand how that works.

And now one thing for instance also where we see—we talked about it—that in AI now of course you need data, you need capabilities, but you need compute power. And this needs also public investments that we can offer compute power that not only serves private gadgets or anything which makes your life easier, but also maybe, you know, how can we use this compute power to advance the SDGs? And we're working on a project with the Swiss supercomputer Alps, which is in Switzerland, and the Finnish colleagues who are there. It's called the LUMI. And for those who don't speak Finnish like me, it means snow. So you know, this snow and Alps works very well together.

And actually, so also it's how can we bring these scarce resources, that most of which is in the hands of private companies, but also the public sector, and then mostly in the hands of universities or research institutions. So that's also a major interest that we want to promote. And I just would like to—I looked it up again—it was a fantastic saying by Albert Einstein, who, you know, made the schools in Switzerland, and then because the political circumstances were not as he liked, and he moved to the United States. But he said in 1932 at a diplomatic conference in Geneva, "Technology advances could have made human life carefree and happy if the development of the organizing power of man had been able to keep step with his technical advances. Instead, the hardly bought achievements of the Machine Age in the hands of our generation are as dangerous as a razor in the hands of a three-year-old child." So I think that's something—we have now again a task in our generation to make these technologies safe and good for humanity. And, you know, I mean that was in 1932 and there has been some developments, but on the large we have found ways to deal with very existential, very risky things. And I don't see a reason why we shouldn't be able to bring AI or other emerging technologies—AI is not emerging technology, it's here—but other emerging, that we can organize in a way that it serves us and that we can limit the risk and I think that's a major challenge for us in diplomacy, that we want to be a major contributor.

Audrey Kurth Cronin: I was wondering about the role of digital diplomacy in theory, because it's a relatively recent thing, in the long sweep of the history of diplomacy. So from each of your perspectives, where do you see this initiative, this role that you're playing in small form, personally, but also the role you're playing with respect to your own country, and then the digital solidarity that we're trying to build internationally—Where do you see that in five years? If you were to think about yourself in five years, or whoever is in that position—What does digital diplomacy and cyberspace solidarity look like in five years?

Ambassador Fick: I can take a stab. I think our overarching objective is just to mainstream it. And a few examples from the State Department for how we try to do that. We set an objective almost two years ago to

having a trained cyber and digital diplomat in every US mission around the world. We've trained, now almost two years in, more than 200 of them, so we'll hit that goal by the end of this year. And the second example: Every year the Foreign Service publishes a list of selection criteria by which career ambassadors will be selected to go take their posts. It's about five criteria, and this past cycle for the first time ever, an understanding of and commitment to cyber and digital issues is one of the five. And that's a sea-change, in terms of a signal from the top that it matters. And in hierarchical organizations you see people begin to adjust their behavior because of it. So I think the goal for us is to again mainstream this in our diplomacy.

Audrey Kurth Cronin: That's a nice goal.

Minister Bogantes Zamora: So I think there's a huge opportunity for regions, and I'm going to refer to the Latin American region, to take advantage of the times we're living in. As I said before, Latin America is now coming to Costa Rica, Latin American countries are coming to Costa Rica, seeking for advice or help on how are we deploying the cybersecurity strategy. But we're also talking about digital transformation, we're also talking about AI implementation. So five years from now I'd like to say that we're a more cohesive region when talking about Latin America. There is a huge opportunity for the region to move up to the next level. We are already a strong force and we should be all moving at somewhat the same speed. And of course, there are countries that will be lagging behind—like Venezuela, Nicaragua, Cuba—you know, the typical countries that are not looking at this the way we are. But I see a change in Latin America where values now are discussed, partners that share the same vision that we are trying to achieve. Costa Rica is viewed in the region as a leader, as an example to follow. And what we're trying to do now is to convey that message, and that great story, success story, that we have had so far, with other Latin American countries, so again, so the region is stronger. So the values that we talk about, and this is very important, the values that we talk about are shared amongst other countries. I always like the tell colleagues from other governments, if you had to ask or invite someone to live with you for a year, would you look at, you're going to look at what values that person has and if they share the same values as you, because you don't want to have a thief living with you, right? So it's the same thing when doing business with another countries. Has to be countries that have the same vision, the same values, that they want to share knowledge, because we are not amongst the leading nations when talking about technology but we sure can be a great examples of digital implementation. So again, I think this is a great time in history, and a great opportunity for the region to be that, to become a success story when talking about digital transformation, digital collaboration, etc.

Ambassador Wechsler: Yeah. You know, on my morning run, I also saw that there's a time capsule in front of the student unions building and that it should be opened in 2051. So I was thinking, well, what will the world look like in 2051? You know, President Biden at the General Assembly was saying, hey, you know, 50 years ago when he started in politics, Vietnam and the US were at war, and now the presidents are meeting in Europe. So a strong, positive message. And I also said well of course we could imagine many scenarios. And I tried to explain once to a Danish friend what I do. And he looks at me like, actually what you do - you're bringing people together. Yeah, actually. I mean if you want to bring it down to one sentence, that's what diplomacy is all about. And it's probably in the digital age even more important, because we don't necessarily need to be. And I think if in five years or in 2051 we can…. I have, we talked about passports. Switzerland is not selling passports but we have this Geneva digital passport, which shows what's happening

in Geneva in terms of discussions about digital or the new technologies question. You know we have Quantum technology coming up. We know in about 10-20 years, this is going to work and we'll have to figure out how what do we do with it and how are we preparing for it. Because again, it's going to be good or bad. You could use it for good or bad. And hopefully, I think we'll have places where we can discuss and find solutions for this. And that's where where we need digital diplomacy and technology to help us solve these problems.

Audrey Kurth Cronin: We're all from um comparatively advantaged countries, more or less, and there are parts of the world that aren't even connected to the internet. So digital diplomacy is a lot easier to talk about if you're talking about people who have strong infrastructure of digital capabilities. What about those countries that are lacking that kind of infrastructure? How does digital diplomacy work across that kind of a divide? If you can't even count on, I mean never mind cybersecurity, but you know they may not have access to the internet to begin with. Any thoughts on that?

Ambassador Fick: Happy to, yes. So when I took this job, I thought that maybe I would go to Washington and have a fancy swearing-in ceremony, and there would be a lot of pomp and circumstance. Yeah, and instead I got sworn in by a notary at a UPS Store in South Portland, Maine, with a line of people waiting to mail packages behind me who are not amused by what was happening in front of the line. And the reason that happened was I had to get to Romania with a diplomatic passport in order to whip votes for the election of the Secretary General of the International Telecommunication Union, the ITU, a woman named Doreen Bogdan-Martin. And it was really important that Doreen win that election.

Ambassador Wechsler: Well done.

Ambassador Fick: Yeah, it worked well for all of us. Really important that she won, because her primary mission is to, one of her primary missions, is to advocate on behalf of, and then try to close the gap for the third of humanity who are still not connected. And so working with her over the last couple of years has been gratifying and frustrating, because it is kind of staggering that we sit here and we talk about all the benefits of advanced technology, and you do it in a place that's as filled with talent and potential as this room. And a third of humanity does not even have a basic connection. So you ask, "What do we do about that?"

I'll give two examples quickly. One is these connectivity projects like the one in the Pacific. You know, we got 11,400 people closer with Tuvalu, and we'll just keep going and keep doing that. I think the work that Carnegie Mellon is doing in Rwanda is extraordinary in this regard. Africa is the youngest continent in the world, and has the largest connectivity gap in the world. And so the fact that you're extending all of the power and advantage and potential of this place there is *exactly* the kind of thing that can help us globally with this. The last thing I would say is, is on AI. Benedikt mentioned the SDGs, the Sustainable Development Goals, the UN's objectives for, on key metrics like mortality and agricultural productivity and things. 85 or 88% of those are off track. If there were a CEO of the SDGs in the U.S. economy, that person would have been fired by now. It's a problem. And perhaps the only way to alter the trajectory of the line would be the application of new technologies. And so as we're having these AI governance discussions at Bletchley Park or

with the G7 or in the OECD, there has to be in parallel a very robust effort to extend the benefits of AI to the rest of the world. And Secretary Blinken hosted an event in New York on Monday aimed at doing exactly that. We got ten of the leading AI companies on the stage and used frankly, kind of used the forcing function of the event to work closely with them on concrete commitments around like, I mean, really concrete, how many dollars of compute credits, that kind of thing, in order to make these advanced AI systems more accessible to other parts of the world.

Audrey Kurth Cronin: Minister?

Minister Bogantes Zamora: You know, I think it's a responsibility from governments to make sure that you are moving ahead with technology. Connectivity clearly, infrastructure, is the baseline to that. But AI is coming, it's bringing a lot of challenges to humanity, and benefits and risks. But the benefits. The fact that a country will not do a proper AI implementation will be detrimental to its economy, because the digital gap or the digital divide, then it will be wider. This is something that we know and it's good to have your boss know this, right? The president of Costa Rica is very much aware of this, which is an advantage. It kind of does my job a little easier. But it is certainly a responsibility for every government to work on this. Ambassador Fick was talking about the population that is not connected. Fifty percent of schools in the world still don't have internet. That's huge in year 2024. We have indigenous territories in Costa Rica; ten of them that don't have connectivity. And it's not a matter of infrastructure, because now you have satellite connectivity. So it's a government decision that needs to be made. It's not even a lack of funds. It's a government decision that needs to be made. Trust me, funds will be… you will find the funds. So it is imperative for governments to work towards moving with this digital transformation.

We non-English-speaking countries have the challenge that AI speaks English, and not until it starts talking other languages, we have to learn English so we can take advantage of AI. But we also have to talk about cross-border data flows. How are we going to do it? Because one thing is for us to look at what we're doing, but we will not take advantage of technology until we start sharing data amongst countries and analyzing data and working on public policies to make that digital transformation or adapting countries to that digital transformation better. So again, I think it's not just connectivity, but it is leveraging the connectivity, leveraging technology, taking advantage of AI and many other technologies to make sure that you're not lagging behind the transformation that other nations are leading the way.

Ambassador Wechsler: Thank you very much. I like your point, because you know, it's very often also maybe an excuse of some governments to say, "'Oh, no, we cannot do this," because for them, it's dangerous. It's an equalizer. It's democratizing access to knowledge, to information, which for certain governments is not useful. It's not wishful. They like to shut down the internet whenever they want. And I think that's one part also that you know, I think also that we work together very hard in the Freedom Online Coalition, because the technology, the infrastructure is one thing, but also then the political will, you know, to let that happen.

And you know, you mentioned ITU. They do a fantastic job together with UNICEF, the Giga initiative, to bring every school in the world to the internet. And I also think it's sometimes, we underestimate the leapfrogging

potential, that even if they get a little bit of connectivity, I mean, the effect is gigantic. And I think it's also the challenge to find the appropriate ways of connectivity so that it's the right measure for the kind of development they need. And you know, we don't maybe need a supercomputer everywhere, but at least really some good, basic access. And I think there again, that's a little bit one thing I took away from my time in Silicon Valley, is that the tech companies are not yet always as conscious of their role of providing an infrastructure and not just a service or a product.

And, you know, that's also brought me something sometimes to think about what kind of governance. When you look at some of the organizations that are, actually the only organization which still exists from the time of the League of Nations, is the International Labor Organization. And because they had a very innovative governance model at that time, because they were saying, "If we want to really improve the situation of the workers in the world, it's not enough that we governments sit together and make a treaty, and what happens, said we need to have the trade unions and the employers around the table." And so they formed a tripartite council and said, "We only together can improve the situation of the workers in the world." And I think we probably need in the future some formats where we can bring also the tech companies, the private sector, more into building this infrastructure in an equitable way.

Because, like in Switzerland, when railways came up, if you were in a valley where there was no railway, there was no more economic development. People had to go away. And I think that's going to happen in the future when you don't have connectivity or when you don't have access to some basic AI tools, because we/you need that, like your phone. And I think that's it. It is the connectivity. I think it has a lot of sub issues that we have to tackle.

Audrey Kurth Cronin: Well, I'm afraid that we've come to the end of the time that we had available. But I just wanted to say that I find each of you incredibly inspiring. It is difficult to serve in government. Public service is challenging. The salaries are not competitive to many of the tech companies that we're all familiar with. The bureaucracy is quite difficult. Oftentimes government lags behind problems. But what I'm hearing today is so inspiring because it's so heartwarming and frankly, deeply encouraging, to know that we have folks like the three of you that can see the vision of where we need to go and are laying out a pathway that we can all see too. So I want to really thank you for everything that you're doing for your own country and for digital solidarity amongst us and for the future of the world. And also, from a personal sense, I want to thank you for coming here to Carnegie Mellon University. We try to solve problems, and I can see that on that note, you are all kindred spirits in that regard. So thank you, and thank all of you for being here this evening.

[Applause]

—- END OF EVENT —