     >> LYNNE PARKER: Okay. Let's get this turned on. Hello?
Hi. I'm Lynne Parker from the University of Tennessee as well as
the National Science Foundation. I know it's been an intense three
days, and we really appreciate you sticking around. So, starting
a conversation about government and industries and other
stakeholders can take collectively toward this grand challenge of
AI, AI for Good. I'm happy to be joined by several esteemed
colleagues on the panel. Let me quickly introduce them to you. Let
me pull up my notes here. Technology, right. So sorry. Just a
pause.
     Okay. So, in no particular order, we have we have Jonggun
Lee, we have Francesca Rossi, a professor on leave currently at IBM
as a research lead. We have Uyi Stewart from the Bill and Melinda
Gates Foundation and then we have Anja Kaspersen from the
International Committee of the Red Cross.
     Let me give you an idea of what this session is all about.
You know that in many nations of the world have been developing
strategies and reports and plans and conversations around AI. The
question really is though, are there ways that we can work together
in order to address this grand challenge? And so, there are lessons
that we can learn from the reports and there are lessons that we
can look at in terms of what are implementable kinds of steps.
     And so prior to this session, we've had sort of an email
brainstorming session, and we've honed in on a few topics, a couple
or three topics that we want to focus on in particular. But, to

sort of lay the stage for this, we'd like to have three of our folks, are going to come up -- and let's see. We don't actually have a podium, so just stay where you are. We do have some slides for a couple of the speakers, and we'll go ahead and have those sort of setting-the-stage pieces and then launch into the general themes.

The first speaker is Ekkhard Ernst. Please, thank you.

>> EKKHARD ERNST: Thank you, Lynne. I want to make very brief remarks about how we can make AI work, especially in the public domain, but more broadly in collaboration of governments, industry, and what I call stakeholders which is essentially the public at large.

And basically, I have one slide to summarize this all up, and I think the most important thing, and we have talked already in different conversations here over the last few days, is really not only to provide open access to the stem of the data collected, but also the AI infrastructure.

The challenge is actually, if you have the data, what are you doing with it? What are you going to do with it? And a lot of elements, in particular, are so challenged in making use of this infrastructure that is often enough in private hands now. One of the challenges, and I think this would be certainly something in this conversation today and this afternoon session should come out, is how we can make sure, how we can provide access to at least some basic AI infrastructure for governments to benefit from it.

And, I'm thinking especially about governments in emerging and developing countries where the efficiency of government intervention could be enormously increased, for instance, in providing services in terms of skills, management, and talent management, or providing information about health care and health care provision, et cetera. So, and I think that in this area, AI and public access to AI and Big Data would be of enormous importance.

But, governments and international agencies can play a role in terms of standard settings and that would help industry players. I came back from a conference a few weeks ago on AI analytics, and one of the big problems that companies face in terms of using the data that they have and AI tools is related to the fact that they're actually lacking standards. They're lacking some kind of general understanding of how to make use of the data that they have and international agencies, including my home agency, the International Labor Organization could help to provide the standards for private entities to actually make use of it.

At the same time, there is an issue of guaranteeing data privacy, that is certainly also an important topic for some of our UN agencies here, and I think there again, we can provide in the discussions and standards certain guidelines at least.

And I think this brings me to my last point, is if you want -- if you want to make -- if you raise -- if you want to make

people ready to share the data more broadly and to have the use, you need to obviously, raise some kind of AI and Big Data literacy, but most importantly, you have to be transparent. You have to erase the fear that some people have in sharing their data. I say this in particular from perspective of my home company, Germany, where there is a huge debate about privacy issues, and where especially in companies, workers are reluctant for HR departments to use this, even so it could enormously help productivity in companies and enormously help the possibility for companies to make good use of the data that they actually have.

So, I think this is the last point, that I think, again, in this conversation today we should find -- we could kind of hone in on a conversation of how can we raise literacy on Big Data and AI, and how can we help increase the transparency in how this data is being used. Thank you.

>> LYNNE PARKER: Thank you very much Ekkhard. These are common themes we've seen many times and I think it's important to figure out how to take practical steps toward the solutions. I see a question here?

>> AUDIENCE MEMBER: One question. Thank you very much. How do you -- one short question just to your presentation. Thank you very much for the ideas, but what do you do about people who are afraid that an open AI tool can help governments be more corrupt than before, discriminate more than before about data protection, but cultural integrity. So, I share your enthusiasm and your approach, but I see also the problems on the other side, and I want -- I would like to hear what you think. How can we assure that this is not misused?

>> EKKHARD ERNST: I think that, I mean, I perfectly agree with you with your concerns and clearly this thing, especially, I'm talking about private sector companies, those companies who are trying to approach HR, for instance, through a quantitative lens, that there is an issue of as you said, the discrimination and maybe exploitation of this data to misuse, but I think that this is what my point was though, to bring the public sector and especially international agencies in order to set the standards but also in order to provide monitoring tools.

I think that, again, from the perspective of IO for instance, using this tool, using this data would be helpful for us to actually monitor and provide the public available information on to what extent international labor standards are properly being respected and implemented, and I think that the international community can play a big role in it.

Obviously, you have never a guarantee that not some government or some private sector will misuse this thing, but I think that if there is an international community behind it that constantly monitors the use of this data and the proper implementation of the

guidelines. I think that will certainly help and will create an atmosphere where people are ready to share the information that is relevant for this tool.

>> LYNNE PARKER: Indeed, it's a very tough challenge. Konstantinos, will now set the topic.

>> KONSTANTINOS KARACHALIOS: So the topic is what can we do at the national level? Here there are several actors. Government is an actor, but governments are caring about the government and they're competitive to other countries, so there is competition.

Companies want their profit. They don't want to share their knowledge with other companies. And they propose standards about privacy and so on, and this is what they're doing.

So, who would create platforms for collaboration? Either United Nations, are they in a position to do this in such a sensitive topic? I hope they will, at least in some way and so on.

What I'm going to show you here is an attempt we are doing here at a bottom up, grassroots movement to create collaborative platforms in also ICT technology but (?).

So, we have created a global initiative, and there are two other members here with initiatives, the ladies on the panel are both part of it at a high level, and with precisely the purpose to educate the engineering community to deliver better products and better rules globally.

And, we have incidentally established a project about what to do with the data covered in the working place. So, you don't know this, but we're working on this. This is not come from both, but it is how we engineers see what is possible and the different levels, and this may be testing for you if you regulate it because you have the opinion of the engineering community. And this is, I believe, quite a contribution.

So, we have done it at two levels. One is a platform we call Ethically Aligned Design, where hundreds of people from around the world, inclusive, from many countries work together to produce, to frame the issues around the evidence and propose high-level accommodations. And they're doing it in a way, making one version, bringing it out, collecting global input, and then now working on vision number two.

This is a fantastic document, and I would really encourage you to go and have a look. This is open for everybody to give input, so this is an interesting also process.

And in addition, we have a series of projects already. Many of them are around data privacy, and if you look at the 7005, it is precisely on the employer data governance, so I mean we're acting. This is what is mentioned (?). This is technology in action and assuming possibility, and I think you should know this because this is really a platform for global collaboration at a very high level.

And in version two, we have been thinking about international collaboration and about the issues of developing countries, and I was very happy to hear a lot of proposals here today and yesterday about open platforms for R&D and so on who are working in the same direction, and we very much hope that the United Nations will do some effort are there too. And, starting with the big topics from health and education, and then have this global platform more generalized.

I think it's very important because this is not taken from the beginning, but this technology will lead to more inclusiveness, it may lead to more (?). And this what has happened with ACT, it's widening the gap and not closing it. If I have a little time later, we'll speak more about this, but that is only to let you know about this effort. We have grassroots from the people who (?) the problems because they create the technologies and create the possibilities. So, the less problems we create by design, the better for the rest of the world.

>> LYNNE PARKER: Terrific. Thanks so much. And Francesca, would you like to make some remarks on this?

>> FRANCESCA ROSSI: Sure. I don't have slides. So, yes, I think that red light this is a very unique opportunity, being here at this summit to have, you know, explore the connections and the power of UN and ITU to really make significant steps forward in these various initiatives that are existing like the IEEE one.

And I would like to say a few more words about the other initiative that I am in, which is the Partnership on AI, and so that's something that came outs of industries, you know, big companies decided to address the issues about the impact of AI and the ethical considerations on AI together rather than in a competing environment while they continue to compete in the marketplace.

But on this issue, they decided that it was much more reasonable and effective and impactful to really work together to define the best practices to understand the issues and understand how to resolve them.

And this initiative started from six companies, one is IBM that is represented, but there is also Microsoft, Apple, Google, Facebook and Amazon, so most of the main companies that are producing AI and using it as well.

And then very recently, other companies have joined as well, like E-Bay, Intel, Sony, you know, and so many others and we aim at the very broad coverage also geographically, but also in sectors of, you know, of real-world applications of AI.

And besides the companies, we also wanted this initiative to include every other stakeholder because we think that even if the best practices are going to be implemented by the company, by whoever is going to develop AI, but we wanted to hear everybody else. And not just to hear everybody else, but even the main decision body

of the partnership on AI, the board, it has an equal representation of corporate and non-corporate entities, meaning that the companies are not going to decide what is going to be done.

So we have, for example, civil society representative, we have NGOs, we have professional associations, so we have ACLU, we have Open AI, we have (?) AI, which is a scientific institution of AI, we have scientific for humanities institute, Human Rights Watch, UNICEF -- we have a very -- and we're not done yet in putting together all of these various stakeholders, so what do we want to do? What are the main goals?

The goals, again, is to understand what the main issues are in this pervasive use of AI in our life, economic impacts, societal impact on people, individuals, and societies.

We want to understand how to address issues like everybody knows about data handling, you know, data policies, data privacy, ownership, storage sharing, a combination of data and so on.

We also plan -- we think that all the stakeholders should be aware of the real capabilities and limitations of AI, so we plan also to have educational efforts to advance that awareness, which now maybe for some of the stakeholders in mainly based on Hollywood movies or media big titles or catastrophic, you know, whatever projection for the future and so on.

And then we also want to understand, which is very relevant to hear, how AI can be beneficial for all, so to mitigate the digital divide, the inequalities and also relates to the issues, the bias that could make also the decision-making capabilities of this AI system to be bias as well, so we identified some thematic parts that we're going to focus on for the first few years.

One is about safety critical AI, where we include also health care and transportation, so where we want AI to be safe, trustworthy, you know, transparent, and value-aligned with our thematic values.

Another is fair and transparent and accountable AI, and so being able to give explanations of why a AI system is suggesting or making some decision or not.

Another one is the collaboration with the people in AI. This is very fundamental because we think that the future is about AI and people really being together in every of our, you know, tasks of our every day.

And another one, of course, very important, is AI labor and impact on the economy and the marketplace, which is one of the main concerns that people have and in a very short time as well.

Another is social and societal influences of AI, meaning also influences in terms of privacy, democracy, human rights and justice.

And another one is very related to AI is social good, again on sustainability, public health, education as well for young people and so on and then another special initiatives that we may have. So, we're going to have a lot of working groups be defined in themes

related to specific topics of the themes but also related to specific sectors, like healthcare, transportation, and so on.

And then we are going to have -- we already have a Best Paper Award, we contacted all major AI conferences to have a Best Paper on the impact of AI and to people in society, and then we are going to collect all of these best papers defined by the conferences, and then we're going to have a grand best paper among all of them to raise awareness, also in all of these conferences, about these topics that we are discussing here.

And then the various other things, but we are still at the beginning, and we need much more broad coverage of all the stakeholders and various actions, and we hope that really, I see a lot of potential and the differentiator of this initiative, I think, is that it has this input from the companies that are the ones that are going to implement the best practices that are going to be defined because that's where the developers are, but also are the ones that are going to give input to the discussion by bringing, really, more knowledge of what happens when an AI system is deployed into the real world.

>> LYNNE PARKER: Great. Thanks so much, Francesca. So, I think we can see that there are many ways of collaborating many types of stakeholders that are coming together, so I would like to challenge our panel and us in the room to think very practically. We look at all of these strategic reports, these plans and so forth, and to me I think as a broad community, we're beginning to get a handle on what the hard questions are strategically, but what can we do practically to actually have an impact and to have an impact in the short term?

So, in our email conversations prior to this, we had a little bit of synergy around the concept that perhaps these stakeholders could work together in a very practical way to develop and define some specific impactful AI software and tools that are relevant to the developing world.

So, in our conversations, for instance, one example is maybe we could work together to provide tools for some fundamental public services. Things like public access to epidemiological tools, or tools that can match people to jobs based on skills.

Another thought is that these different stakeholders can work together to promote research and lightweight mobile applications that take advantage of Internet-enabled phones, they're culturally aware, and so forth.

And the idea in general of starting with small applications that could have an impact, but we solve them in particular areas, and then generalize.

So, I would like to challenge us all to think for a few minutes now about some practical things that we could do collectively as a broad community to work together to solve specific tasks in a short

term that then could provide information, perhaps, going forward to how we can have a more general impact.

So Jonggun has some thoughts on this as well. Would you like to?

>> JONGGUN LEE: Yeah, sure. I'm with United Nations Global Pulse. Specifically, I work in Indonesia, so we have three offices, and one of them is (?). We are more working with the developing country and Asia and Pacific. I just want to, I really enjoyed the three speakers, and they touched on some North and South and some views and also the partnership, but I just wanted to quickly there, that some of our experience -- actually, we are working with Big Data and for governments and public sectors and we have bringing a lot of different kind of stakeholders to work together for the public issues.

And then -- and then Big Data sometimes for public sectors is still quite new. The understanding or he mentioned about data literacy, and but Big Data literacy or even we are talking about AI, so how many peoples, or how many governments or public people? And there is still the potential of Big Data, I understand the people from industry or academia shows a lot of potential for Big Data. But again, back to your point, we might need to show certain specific potentials and the specific things that that shows not only the public sectors but also the private sectors to move forward. You know, I might say from public sectors, so their understanding about AI or data analytics or machine learning is not that, you know, deep or limited compared to private sectors, but on the other side, the industries or academia, their understanding about government's operations or how do governments work or how to make their decisions is still limited.

So, my point is we might have some time to bootstrap, or we might need to understand each other while doing some specific project that's still small and bringing some immediately available dataset but that shows some potentials. This is one of the first steps we're taking and bringing different kinds of stakeholders and to bring more impacts. I think that's some of the message I wanted to bring.

>> LYNNE PARKER: Okay. I'd like to open it up to the panel to make some comments on this. What do you think? Are there some ways that we can do -- have some collaborative actions that make very specific concrete advances in the short term that can help, I think, illustrate the power of the collaborations?

>> FRANCESCA ROSSI: The first thing that comes to my mind is that this morning we had the nice meeting at the Red Cross with organized by Anja, and there were some very interesting, specific, you know, problems that I think that AI could help a lot. Like for example, this idea of finding family members, restoring family links in the situation of crisis, wars, where families can be separated

and dislocated, and so that by using different forms of data and combining them in various ways, then you can maybe achieve, you know, the restoration of the family. So, that's one, I think, very impactful thing where AI can be very useful using several techniques, starting machine learning but other techniques as well. So that's one. I think things like that can be really impactful and show to the various agencies also, even though they have different problems to tackle, they can show really the value of AI.

But, I also think that the educational efforts are very important because all these agencies, you know. I realize that they know of AI only when what they read about AI and they only know about deep learning and data problems and others and AI is much more than that. AI is not just the planning but machine learning in general, but also its planning, scheduling, optimization, reasoning under authority, decision-making and all of these techniques together combined can really make an impact and not just one of them.

>> LYNNE PARKER: I agree. I think that's a great point, and I think a good selection of these kinds of case studies or examples of how these communities can come together and solve real problems that uses the whole span of AI techniques can then help show the power of this.

I was struck in the educational panel earlier about the question that one of the speakers said was, you know, you go to a developing country and you suggest well why don't you use AI for education. And their first question was, does the U.S. use AI for education? Not really. And so if you can't really show examples of where it works, it's hard to make a broad case. So, creating a few examples of how it works, I think, could be powerful. Anja, would you like to add?

>> ANJA KASPERSEN: Yes, thank you, and very interesting comments have been raised already. I think it's important to be, you know, to be humble about where we are. We are all early adopters, so I don't particularly personally, I'm not speaking on behalf of my organization, but personally, like this old kind of fashion 80s dogma we try to use for the developing and developing world. If you see countries, one country Myanmar is now and they're still waiting to create a government maturity in how technologies and connectedness is being applied and deployed. And so, AI in this context, and this is not just an issue that is in a country that is kind of coming from, you know, from a poor space and coming into the middle income.

You know, if you go to any of the industrialized countries, my own country now included, you know, this whole digital transformation which is often called in kind of broader terms, is kind of having us all a little bit at our toes and where do we go from here and what is the right way to transform? Is it an acquisition of new technologies? Is it about cultural minds of

change? Where do we go from this?

And, AI is kind of at the core of this perfect storm, in a way, and forcing us all to be early adopters, and yet we speak as you were saying on education, you know, immerse ourselves in it, let's take it out, and certainly now going back to my organizational perspective, you know, we see all the opportunities.

We see, as Francesca was speaking to, and at the same time we're constantly thinking for every step we take on this, are we creating new vulnerabilities? Because our core mandate is not only being the guardian of the Geneva Convention and protect and try to advocate for humanitarian law, but it's also to provide -- we have a protection mandate.

So, with these new kind of digital tools, do they create new vulnerabilities? So, we're just not quite ready as an organization and as a community and humanity, to really sort out. So, it's kind of humbleness around the adopting, you know, being the adopter versus adopting, I think, is very important.

And just allow me since I have the floor, on the how, you know, we're talking about -- we've been hearing a lot about adaptive governance. This morning we were talking about how we need to be more adoptive in our governance style and, you know, how to foster, I would say, like kind of a new norm entrepreneurship. So as Konstantinos was referring to how we create, what are the projects we need, who are the actors, what agenda is brought into it, and what is at stake, it's not what it used to be. But our system and linear thinking of norm setting is not quite reflecting that.

So, moving into the new space, maybe it is a combination of standards, agile governance mechanisms. You still would need a hard (?) to action compliance. You need to be global because you need an even playing field of industries that are really going to take part of it. Industries want to take part of something that will only apply for some and not others, they don't want to do that.

We see this on data protection regimes and flow of data across borders, the cross-jurisdictional issues. And then one of the other issues, you know, something like kind of the broader infrastructure versus kind of a new organizational thinking is one thing that I take away.

And then, I really like the point raised earlier this morning. How could we Cloud storage, the Cloud sourcing thinking about around what I think will help break down existing silos and existing -- because you know the whole discussion is a bit siloed. It's AI people, the scientists, the R&D, the industry, the government, it's the civil society, and then we all tap our self on the shoulder and bring us all into a room, but don't really invest in showing that the discussion, in having one outcome, one language. And, not to say that everyone needs to agree on everything, but spending a bit more effort on trying to align those differences in

those silos.

And then the -- one of the -- you know, just a point that was mentioned in a presentation that has been raised, we also have to think about interoperability of systems, so creating -- we don't want to create pockets of governance, right. So, for one (?) with the same technology or same application can be used different, but it's being governed here and then it would complicate governance in another field, not to mention how this would translate when you do cross border.

And then my very last point is that, you know, there has been a lot of talk in markets, and yesterday (?) raised the idea of a AI CERN and a Geneva Convention on digital rights, et cetera, and I find this all to be quite interesting because what we're talking about at the core of this is that we're all seeking somewhat of a mutual, independent, international body of forensics.

So, be it forensics on the algorithms, the data use, the checks and balances, safety-first mechanisms, you know, whatever it is we want to integrate into it, whatever we start with the industry standards or something more treaty based, but we come down to, we really want to understand what is going on. And so that for me, you know, like the governance piece, really you know, be humble and also be very clear what is it that we're trying to achieve. What I'm hearing a lot is that it comes back to the forensic issues. Thank you.

>> LYNNE PARKER: Thanks. Uyi, I know you have some thoughts on the governance matters and so forth.

>> UYI STEWART: Can you hear me? Hello? Can you hear me? Oh, good. Yes, so I like the point about, and let's ground this discussion from a practical standpoint, right. So, governance is one thing. I've heard about standards. Standards is another thing by itself. Privacy is an issue. These are all great, but I just want to talk about capacity development from one perspective as it results to governance and then this notion of workable incentives to help us design the future and the perspective that I want to capture in the next few minutes is really from the African government.

Right. So, look, we don't want to create another digital divide as we design the future. How do we leverage AI in a way that is inclusive, that brings them? Well, the notion is about a workable incentive. Just what we've done, so I work for the Gates Foundation now, and up until three months ago, I was IBM research and technologist and co-founder of IBM research in Africa, in Nairobi, Kenya. So, I want to take two minutes and tell you about the work we did around PPP, Public-private partnership, with the government of Kenya and the research organization.

It's around an incentive about ease of doing business. This is something that is organized by the (?) every year that nations

around the world on parameters around how easy is it to do business in that country, so the time it takes, the processes involved, and the number of complexities.

Kenya approached us as a host and said look, we want to leverage this thing that you guys do, which is AI Big Data, to help us to become a top reform country in the world.

So, they came to us, which was three years ago. They were in the bottom 100. So, to cut a long story short, we set about allowing Kenya to tell the Kenyan story using Big Data. What does that mean? We engaged the students in the local university, that's what I mean by capacity development, give them tools, AI tools that allow them to go into the community, into the government offices, collect their data, use IBM's Watson to run analytics on this data and the issue is about optimization.

The outcome of this result, essentially, is that by today, after two years, Kenya is now right as a top reform country on the ease of doing business ranking. Talk about being practical in terms of using AI to design the future of the country using Public-private partnership.

>> LYNNE PARKER: That's a great example. I would like to open it up to the audience. Do you all have some questions? Yes?

>> AUDIENCE MEMBER: I think that's absolutely magnificent. One of the things I'm campaigning for is a perfectly transparent government and privacy for people, but one of the previous questions was, what are the immediate things that we could knock down for low-hanging fruit? And, I'd like to propose three on this.

One is food, so one is jobs, and one is commerce. And so, food means helping the farmers so that they can grow the food properly. Commerce means being able to sell things easily so that you can -- you can have entrepreneurs that start companies and support themselves and jobs remain more of the same.

When you have a liquid jobs market, when you have a liquid commerce market, it's all related to real world peace, and the peace depends on people being able to support themselves. When the people are supporting themselves, they're not joining gangs and going out and fighting.

>> LYNNE PARKER: Great. Great thoughts there. So, we have the three areas that we've decided or that you suggested are the top priorities. Do we need to create new partnerships, new collaborations in order to address these? And if so, what had might they look like beyond the mechanisms we've already discussed? I'll open that up to the panel. Thoughts?

>> EKKHARD ERNST: Yeah, I think -- I mean, especially on jobs knowing from where I come from, but I would say that a lot of things have to do with this upscaling some of the initiatives that can be happening.

I had a discussion with somebody from Microsoft telling me

that they actually are realizing now on the development of
information in order to, for instance, help governments better to
monitor and implement certain policies. And, one example he gave
me is to say, in actually all of the Cloud services, they have to
have calendar data and they can understand when meetings are being
set up even late at night for government policies not to have
late-night meetings, so they're trying to discuss with the
Government of Japan to help them monitor better the government
policies in terms of working time regulation are actually being
implemented. And, I think this is a small-scale example, if you
want, but they need to be upscaled and kind of made available to
more and other places and not only in Japan, but other countries
as well.

        I think that helping -- that comes back to the earlier part,
helping governments help to monitor the implementation of policy,
means they also need to be made aware of some of the initiatives
that are there. And, I was interested in listening to what
Francesca was saying about the initiatives going on and trying to
raise awareness. I think that is something that we need to
stimulate much more than we have done so in the past.

        >> LYNNE PARKER: Anja?

        >> ANJA KASPERSEN: To your question, do we need more
partnerships or new partnerships? I think certainly, yes. And
certainly, from a perspective -- we're 103-year-old organization
and have the chart that we kind of follow. And we, in recent years,
in a way to try to adapt into these new realities have broadened
our partnership structure tremendously. So, we are constantly
facing, okay, we want to do this, who are the right partners? We
team up with people, that maybe even a few years ago, not that we
were opposed to it, but it wouldn't be a natural fit for us. We
wouldn't even think of it.

        So as early adopters, all being in the space together have
really forced us to think differently about our activities, which
I just one point I want to raise. In a developing humanitarian
discussion, often when you are working with industry, you have a
classic conversation will be industry will come to you saying we
are changing our CSR policies and we want to work with you. What
do you need? And a typical response, and not saying this is from
our organization, but it's like what do you have? And the industry
will say, what do you need?

        And so, you would have this kind of circular discussion where
nobody is really happy when they leave the room. So, what is
required? It's not that we need new partnership, but we also need
to be much clearer in our ask and our value proposition, and this
is a big challenge, especially for public sector organizations, and
something that we're working on constantly day to day because it's
life and death for us. You know, if we don't deliver the assistance

that is required in a timely manner and still protecting people, people die.

For others, it's may be less traumatic because the areas you work in, it's slightly different, but it still comes down to these partnership needs to have clear asks and clear value propositions, and I think -- I mean, for me I always explain this to my colleagues in my own organization and others, look at it as an opportunity. You know, practice your elevator talk. You know, tell people in 30 seconds what it is that we're all about. I mean, Francesca just kind of did the elevator pitch on our behalf and saying the key areas that we're working on.

Somebody was saying, asking a question in the last session, saying how can we work with technologists and scientists to better understand what we need to ask for because a lot of policy people like myself, sometimes we struggle in these conversations because we kind of know that we want to go, but we don't know the right way of asking the questions. And then we get a little intimidated because we don't have the language to go with it, and then we become a little resistant, you know, because we don't want to be made into fools while we're asking a question that we don't really have the appropriate language to ask it in. So, working on the ask and working on the translation, I think is key.

>> LYNNE PARKER: Great. Uyi, did you have something to add?

>> UYI STEWART: Yeah. I wanted to say that new partnerships are already being formed. I want to iterate the story I just told. You know, 10 years ago you wouldn't have a research organization partnering with a government public sector in Africa. Right. So, new partnerships are being formed, but there is another question that needs to be asked, if I may ask that. It is, what are the underlying business models? How do you make this partnership sustainable? Like I said, I just came off of four years of doing this, right. And the big gap is how do you sustain this effort and how do you take it to scale? Those are big gaps, and I'd like to hear thoughts on those.

>> LYNNE PARKER: That's a great question. Any thoughts on that? Any panelists or anyone in the audience? How do we develop, sort of, business models of partnerships? How do we make connections? I think meetings like this are really amazing for bringing stakeholders together, but it's a one point in time sort of thing. How do we sustain these, how do we make connections, how do we -- so that the next people that come along what the right questions are to ask and know how to set up the partnerships? Any thoughts on that?

>> ANJA KASPERSEN: One comment on the funding structures, we really need to, the sustainability of this initiative, especially if you're going to have them running over several years, has to also

take into account the funding structure that has been put in place to support it.

One of the big disruptions right now for the humanitarian sector is all of this directive and platforms using ledger technology, for example. So in this age of, you know, media coverage and crisis and compassion fatigue, people are more inclined, you know, or becoming more inclined to having that direct interaction with those who try to help and not go through the intermediary, so it's just it's increasingly disrupting the landscape of the classical actors.

So, I would say to make the initiatives sustainable, you know, we have to look at the funding structure and also how to actually combine public and private funding, which is actually from a kind of -- from a rules and principles, quite a difficult thing to do.

>> LYNNE PARKER: Indeed. Konstantinos, did you have something you wanted to add?

>> (Speaking off mic).

>> LYNNE PARKER: Wendell, please?

>> AUDIENCE MEMBER: Thank you very much. Am I on now? Yes. Okay. So, we've actually been looking at this problem of collaboration and even coordination, that it's evident in one technology after the other. They get formed in piecemeal ways in silos, and people don't really know each other is doing and there is no way to look at it comprehensively. There is no way, necessarily for NGOs to know corporations who would be happy to give them free resources if they knew what they were looking for.

So, we have been looking at a project that we call Building Global Infrastructure for AI and Robotics, and it's largely about putting a coordinating function in place, keeping an eye on who all is doing what. Each area is actually being attended to, and where there are gaps that are not being attended to.

When you have bodies that are actually reinventing each other's wheel, and if they just knew about each other, they wouldn't have to do that because they aren't just a territorial land grab. I think we get something unusual going in the AI universe in that there is such a cross-meeting of all of these people in all of these areas, that even though you don't have the coordination yet, you do have the real prospect of people working together and not totally across purposes because some of these groups have the same people in them.

There is a need for coordinating structure, and that coordinating structure may also be able to facilitate a movement toward agile or adaptive governance that we become less reliant on the hard governance of laws and regulations, which we just cannot keep up with the vast plethora of new applications, this pacing gap, and that we're going to need have more standard-setting bodies like IEEE on industry taking initiative, but perhaps also, a good-faith

broker helping to keep an eye on what challenges are being dealt with, where the gaps lie, when we're about to cross new technological thresholds that open up new dangers, and how we might address the new risks or dangers.

First, through possibly technological solutions where they are feasible and can be realized; and maybe second, looking at soft governance processes. And only finally, looking at hard governance where it becomes really necessary to put that in place to, for example, punish vogue actors or wrong-doers.

>> LYNNE PARKER: Thank you. You have a question?

>> AUDIENCE MEMBER: There is just one idea coming through my mind. In medicine, we have this clinical trials or clinical trials registry. Why not building up an artificial intelligence project registry where you can put your project on? Everyone can inform oneself, can contact one person, can say well, I want to contribute. The results can be put there, and say well, this project didn't work because of, or this project worked, but we are in need of some special expertise in addition. So, this could be a platform where people can be informed. It is a little bit centralized, not to be regulated too much, but it is just about being informed on what is going on.

>> LYNNE PARKER: I think that's an excellent point, and the extent to which some of these exist, I think we need to discover them and somehow make people aware. Yes, Konstantinos?

>> KONSTANTINOS KARACHALIOS: I would like to go back to your question. You asked what are the market mechanisms. It must be sustainable, the model. For instance, if we look at the impact of AI in the society and ethical, the good actors they get punished. They're not getting rewarded because the market if it's this. If it's cheaper, they win, so the question is how we can create incentives for both of the developers and the companies that follow some ethical principles to get rewarded.

You have to get a visible market for this, and the way to do this is to create, to agree on the level of industry or the level of the engineering community that they are doing, to have some recommendation, some specification, some standards that can be visible, that can be certified, can be followed, and the consumers have a choice to buy more meat and or cheap meat, and we need to find ways to create sustainability markets. Jonggun, would like to add.

>> JONGGUN LEE: Yes, I agree with the repository or the business model's incentives are important, and even the budget structuring is so important, but I just wanted to go back to one of the questions that people do not know how to ask, and the understanding is limited. We are (?) a unique organization, we set up based on the UN and government. So, we work a lot from the government and we're bringing a lot of people from the private

sectors. So, one of the ways we can be effective PPP, the
Public-private partnership, is we are having a kind of incubations
or this -- we are having a lot of people and putting all together
in one room, and then we are planning three days or five days of
understanding workshops. So, we try to find -- we try to have a
better understanding of the other side.

What exactly you are, you know, because of that you cannot
sleep overnight or instead of saying okay, what it needs, what do
you have? We try to understand each other. So, when you say about
AI technology, whether a is that exactly about it? Or when you are
talking about food or when you're talking about commerce, exactly
what kind of difficulty do you have on a daily basis, and then what
kind of technologies or methodologies can help answer that question?

When we talk about Big Data, we usually say it's not a magic
bullet, so some data technology can help (?). I believe the similar
AI, when we talk about the potentials, we might discuss different
kinds of AI potentials, but we might need to drill down a little
bit, what kind of AI technologies can help or have some very good
use cases to help specifically one issue, or specific public issues.
That is why it's so important that we need to discuss about this.
So again, better understanding each other is important, but I
believe the others are important as well.

>> LYNNE PARKER: Great. Thank you. Yes?

>> EKKHARD ERNST: I just wanted to -- yeah. I just want
to react about the point about how to make sure that certain
standards are being respected. I think that this is not a new
problem. We had that in the past, and I think the typical answer
to that is that there needs to be some kind of Public-private
partnership at least for some part of the market that is being
properly regulated. One example I want to give is from, especially
on this job search (?) that we have been talking about before, and
based on even now some complaints that all of these job platforms.
They're just the targets of the wrong (?), et cetera.

I think this could be, maybe not easy, but could be potentially
soft if there would be at least some kind of public platform that
is being maintained and drawn in collaboration between governments
and or public services and industry that is free of access and allows
a certain base service. As much as you have a base service in
electricity and telecommunication, you have also base service in
job search algorithms, and then on top of it, include any kind of
additional private sector initiative could be developed. But at
least for the base service, certain standards could be met, and as
you can imagine for all different types of AI tools, but this type
of minimum regulation can be guaranteed if you provide a certain
public service that is setting the standards for the rest of the
market.

>> LYNNE PARKER: Thank you. We're going to lose Anja

shortly. She has to go pick up children, so are there any final remarks that you would like to make before you skip out, Anja? Are you good?

>> ANJA KASPERSEN: Just want to tell you the opportunities, and thank Konstantinos for the work he and IEEE is actually doing and trying to bring the grassroots movement into this discussion, gender, disciplines, really making a multi-stakeholder dialogue, really the only one. So, I wanted to use the opportunity to complement those efforts and also see them through.

(Applause).

>> LYNNE PARKER: Here. Here. Absolutely. The role that IEEE is playing is outstanding in this space. Yes? Very quickly?

>> AUDIENCE MEMBER: So, you ask how to make a partnership sustainable and then how to take it to scale, and I think we need to look at the history of organizations, in particular, and the kinds of people that are best at different stages. So, if you look at entrepreneurs, they're really good as creators, and they're sort of firemen that go and put out fires, cowboys that go and take care of stuff. They're very creative, but they're not really good at sustaining and running an organization.

If you have something like a franchise like McDonalds, you don't want a cowboy running a McDonalds. You don't want them saying I'll put six slices of pickles on because it could be exciting, or I won't kick the meat because it's faster and then people die of cholera or something.

You want people that are solid and are managers and not particularly leaders, and so when you have kind of three stages to explosions. You've got the kickoff stage in which things are exciting and you're starting from zero and you're going to 1 or 10. And then you've got the burn stage, where you're going from 10 to 100 or so. And then you've got the sustain stage, where you're going from 100 to 10,000 and you need different people at each level of this, and leaders versus managers.

>> LYNNE PARKER: Yes, thank you. Definitely, there is a lot of expertise in how to do this. I think we need to pull it together and apply it to this domain to make it really practical and useful. So, thank you, Anja.

>> LYNNE PARKER: Now, I'd like to switch gears just a little bit. As you know, we've talked about how there are many different nations that are looking at AI strategic plans and so forth, and we heard in the last -- earlier this morning about the strong investments that China is making in this space is, and we haven't really heard too much from them and we have the great pleasure right now of hearing from someone that represents the activities that are happening in China, so we're going to hear now from a senior engineer with the China Academy of Information Technology, Institute of Technology and Standards Research, and he's going to give us a quick

summary of China's activities in the space. And this is very important as it results to being aware of all of the different players and understanding what the different people are working on. That's an important first step toward collaboration.

>> Thank you. It's an honor to speak to you. A challenging with AI and (?). I'll talk about the (?) of AI, and if we're reaching for AI and also technologies, but and this year to (?). And we need certain (?). The Chinese is great inclusive, about AI competition, so we need imagine that challenge, that China is (?) in other categories. The government putting in place (?) our ecosystem for AI to supporting that phase. (?). It leads to some of the access. First, the government leading the broadest (?). Especially, the special document on AI, an action plan of (?) AI.

And certainly, the government is -- (?) a standard for that. So, the government actually encourages (?) on AI to folks for training and social media platform such as (?). And the government also encourages platforms (?) in working together.

(?) AI -- and actually -- the community and the vision is very (?) for us. The (?) but also -- including the (?) and center and working groups of questions such as standardization and (?)

(audio is very muffled with this microphone).

-- turn to promote collaboration. We can also include the innovation and (?). Okay. The AI is more intensive to reach and looking forward to converging is really (?) for good that AI. Thank you. Thank you.

(Applause).

>> LYNNE PARKER: Thank you very much. Unfortunately, we don't have simultaneous translation and he was not comfortable with answering questions, so please see him later if you would like to see more details, and I'm sure he would be happy to have those conversations with you.

As it results to these issues of governance and standards and so forth, are we on the right path? Do we have additional steps that we should advocate for here toward those questions of partnership and governance, or do you think are we good to go or we have some things be that we ought to be doing that we're not?

>> KONSTANTINOS KARACHALIOS: So, as Anja alluded to before she left, every actor has to assume the possibility. Governments have to say something that makes sense. Industry, they can come together, they're doing it to agree or some standards among them, and we the engineering community have to do our duty also. Everybody has to work, and of course we have to work together because what one does makes to others. In all levels, we need access and coordination. This is a big, big effort. We're trying this, but more needs to be done.

>> LYNNE PARKER: Absolutely.

>> UYI STEWART: I agree 100%. Just a slight addition.

Again, I seem to be carrying the flag of the developing world here, and from their perspective, you have to be practical in terms of implementation. So, my addition will be that for nations that already have their ITU policy in place, that starting a new program, we tack this on the existing ITU policy and that way we have a likelihood of success.

>> LYNNE PARKER: Excellent. Yes, please, Konstantinos.

>> KONSTANTINOS KARACHALIOS: I would have three questions, which are three types of criteria because this is almost a closing of this conference, so what is it about and what is the criteria? Because there is a lot of money poured in these technologies and so on, and what are we doing there? And from my perspective, there are three important questions we have to ask. Do these technologies, which are a category of ITU technology, do they reduce inequality in our societies? This is the first question. Because ITU has been not been used in equality. It has increased it. It has increased the society and middle class, and you have significant political problems in the western societies because of this.

Second, does it reduce inequalities among countries, among developing and undeveloped countries, or will it increase the gap, the developmental gap? There are some countries like China who would be able to advance because they have a huge market and big population and they can cover the data, but what about the others?

And the third big question is, will these technologies narrow or widen our space for certain (?) and political autonomy. The answer to this question is not very easy and not (?). So, and this should be our criterion on what to promote and what not, and to be conscious and critical about this. We should not be afraid to ask these questions, in my opinion.

>> LYNNE PARKER: Very good. Thank you. Questions from the audience? I think there was a question in the back earlier, but maybe it's been answered. Yes, please.

>> AUDIENCE MEMBER: I don't know whether you already -- whether it's covered by your suggestion, but I think it's important to explicitly address that the public, the people themselves can participate in the development, and that's about access and some governments have the power, obviously, to cover data and have the technology, but they do not let the people participate, so that's just one point, I think.

>> LYNNE PARKER: Yes, excellent. Any other questions from the audience? Yes?

>> AUDIENCE MEMBER: Thank you, all. If I just want to weigh the elephant in the room when we talk about corporation and coordination, the relationship between IP and tendency in a lot of these markets to lead to extraordinary concentration of ownership among a few very, very dominant commercial partners, so the question is how do we get around that when discussing these frameworks for

coordination and cooperation. Anyone want to comment?

>> EKKHARD ERNST: I think that -- the point I was trying to allude to earlier on in my remarks. I think what economists call (?) technologies, where basically the more concentrated the market becomes, the more efficient it becomes, so you have one or two dominant players is a typical problem. It's not something that is new. We have it in railways, electricity, et cetera. Usually, the approach to it is regulation and public provision. In AI, you can't really publicly provide it simply because there is so much technology and technology advancement that the public sector would not be in the position to do that on a regular basis. But regulating you can, and you can as I mentioned before, you can at least provide a certain basic service.

For instance, the fact that Amazon is dominating the market with its (?) service in terms of the breaking down tasks and sharing this across a wide community of employees is not something that is not possible to be run by a government entity, at least for a certain number of tasks, and I think this is the type of things that we should think about to what extent, to what extents we can and want the public sector to get involved in these type of activities and to what extent it will actually help us to solve this type of inequality problem that you're alluding to.

>> LYNNE PARKER: We have a question here?

>> AUDIENCE MEMBER: Hi, (?). I'd like to raise an issue with respect to collaboration of other stakeholders. I'm pleased to hear Konstantinos about his comments about what IEEE is doing in terms of ethical considerations for AI and robotics, but I think what's become quite clear in the discussion this week is that AI robotics is not a single --

>> LYNNE PARKER: -- technology.

>> AUDIENCE MEMBER: It involves citizens, companies, computer scientists, electrical engineers, and (?). They have their codes of conduct. Working on codes of conduct, other organizations have codes of conduct, some professional organizations do and some don't. But surely, the way in which AI and robotics impacts those different professional bodies can influence the ethical considerations that they will be putting in their codes of conduct, so surely there is a need for collaboration between the professional bodies to make sure that they are covering all the aspects relevant to AI and robotics. Thank you.

>> LYNNE PARKER: Is that something that IEEE looks at?

>> KONSTANTINOS KARACHALIOS: He's right. You're right.

>> LYNNE PARKER: Yes, very good. I'm going to put our panelists on the spot. I have not prepared them for this, and then we'll get to your question. If you had one action that you would like our community or the whole, you know, globally to take that is new as it results to partnerships in the space that we've been

discussing, what would be your top priority action? Francesca?

>> FRANCESCA ROSSI: I have two. One is the education thing that I mentioned earlier because without that basic awareness with everybody, we cannot go anywhere, I think. The second one is really to connect all the existing partnerships, initiatives, institutes, you know, initiative of any form to understand how they can join forces with avoiding, repeating each other's work and how they can exploit their main differentiator, you know, the fact that they're different people, they can have different strengths, different ways of impacting, you know, and making AI an impact on society and that is really an effort, for example, that we are a little bit trying to do within the WEF, a global council of the WEF on AI and robotics and one of the initiatives. I think it's very important to really map, even visually, all initiatives and see the overlap and what differentiates one from another and to really take the strengths of all of them and join forces.

>> LYNNE PARKER: I agree. Others?

>> EKKHARD ERNST: I think I come back to my initial remarks. I would launch very strongly for collaboration between international communities' governance and private entities to develop at least one simple AI open access tool, almost like what Uyi was mentioning earlier before in our earlier position as IBM chief data scientists to have a IBM Watson line that is open to access and kind of provide the necessary intelligence and training for governments to actually make use of this tool for providing public policies sufficiently.

>> LYNNE PARKER: Cool.

>> JONGGUN LEE: Yes, if I may, as far as some of the examples of the projects, the AI for good, but small scale. For instance, you know, some people are analyzing satellite imagery to produce realtime map, but one thing we might want to try is to make a kind of, you know, a bigger pilot project, or a bigger projecting, where it's a real project covering the regional or really globe. I truly believe we can learn a lot, for instance, what are the scalable issues and whether a are the funding issues, what are the coordination issues, what are the regulation issues?

Once we learn something at least from one project, then we might better think around, okay, so in other projects, in this other space, how we can move forward? We're learning from that way. I think that is also needed.

>> LYNNE PARKER: Very good. Yes?

>> KONSTANTINOS KARACHALIOS: So, if I can dream of a miracle, as a positive psychologist sometimes people do this, then my dream would be that people, we can agree on a global agreement on basic science and technology. Taking your idea a bit further. That means a platform which is inclusive in input and output at the level that will help us to collaborate collectively to address the

global challenges of our planet, and this is not my idea. This is an idea that came out of Geneva 10 years ago. I participated also. There were several NGOs involved, and there is a treaty there, formulated, and I think it is more and more necessary really to address this big thing as humanity and not only computing against each other. We need plans of collaboration now and not tomorrow. Yesterday we need them.

>> LYNNE PARKER: Awesome. Uyi?

>> UYI STEWART: Yes, again, putting on my developing-world hat here, if I may. It is predicted that by the year 2030 Africa will have the largest concentration of young people in the world. What are we going to do about it? Right?

So my proposal, one action is that we work together, stakeholders, governments, industries, and all stakeholders, IBM, the Gates Foundation and we actually stop duplicating our funding efforts. We coordinate our funding because it's more about scale exponential growth, and more importantly, that we transform in Public-private partnership into a public good. That would be one action from me.

>> LYNNE PARKER: Great. There is a question here?

>> AUDIENCE MEMBER: Yes, thank you very much. And yeah, thank you everyone here. So, one of the themes that I think has emerged throughout the summit and especially through conversation is the need to develop and support leadership, committed leadership both from a top down and a bottom-up type of approach, and I think as far as the top-down portion, the organizations that have convened the summit have already laid some good groundwork for that discourse to be structured around and continued, and I can have a number of things as wins, the global infrastructure for robotics initiative that Mr. Wendell was just talking about, and on that end.

I know from the City of Pittsburgh that I'm representing, our mayor would be thrilled to open up the entire playbook of best practices in terms of how they approached, you know, commercialization of research, technologies, Uber, and three other autonomous vehicle companies there as a testbed, and dozens of other things that they've taken on recently.

The flip side of it though, is something I see a bit more challenging, finding and fostering that kind of localized leadership, the people who are audacious enough to take on the helm of really building a community of support around anywhere from states down to local municipalities. But if (?) and these convening organizations can be a force and umbrella that also offers those grassroots resources and best practices, then you can perhaps, the collection of such individuals working around the world can offer that really powerful crowd-sourced resource.

>> LYNNE PARKER: Very good.

>> AUDIENCE MEMBER: Can I jump in here? I'm (?) in

Pittsburgh as well. I've seen and I work with technology companies, largely robotics and AI companies spinning out of universities there, and we've seen tremendous excitement in our region around new technologies. As I'm hearing you speak, I really like the case study approach, so the story of Kenya, for example. I think is an illustration of a Public-private partnership that worked and in the U.S. I work with drone companies and the FAA is starting slowly to think about Public-private partnerships with industry in the drone autonomous aircraft system space.

I would love to see, and Uyi you mentioned these three pillars that I think are something that we've been hearing and echoing throughout the commerce, food, commerce, jobs, right, that affect both developing and developed nations. If we can have one takeaway and if I had a dream, right, from this conference, it would be that the UN with the (?) is in a strong position to highlight several case studies globally in partnership with non-NGOs, maybe states and industry because we have the collaborative muscle in this conference, and what we're really trying to do is both an external and internal education.

The internal education goes to your point of putting together a match-making sort of platform for, like a clinical platform of sorts, so that we can all educate what are the resources that we have at our disposal globally.

The external one is just as important, and that is communicating what AI can do through these case studies to anyone who will understand. These are not people who are in the room. These are people who understand from the case study what we can achieve, and I think we need to think about it as a marketing -- almost a marketing narrative that we present to the world externally and internally.

>> LYNNE PARKER: Thank you for that. Other comments or questions from the audience? Did you have one, sir? Uh-huh?

>> AUDIENCE MEMBER: Just real quick. Hello? Let's see. I wanted to attempt to address privacy on communication. This is -- it's tied in because AI is being used to break privacy and later on with the recording, it's being used to search.

I come from America. We have an actual constitutional amendment, the Fourth Amendment that our founding fathers said that you can't search people's mail and you can't search their papers, and this was important enough for people to fight for and die for when the country was founded. There are totalitarian governments out there that believe that it's not so important that they want to collect everything and control everybody.

It's a bit of a problem. I think there needs to be a tradeoff between safety and the general quality of life of countries. If you look at East Germany, it had a very successful totalitarian data collection, but it had a pretty terrible quality of life.

And I then, you have to also look at the effectiveness of what's going on. If people collect data, does it actually stop terrorism attacks? We've been collecting data for decades now, and we're still having terrorist attacks and so that is not something that is working very well, but on the other hand, there is a definite chilling effect when it comes to commerce.

And so just in general, I'd like people to look at the questions of privacy and go back to the constitutional amendment that people, you have to respect them, you have to give them privacy, and how trustworthy are people and how trustworthy is the government? When you have a government that wants to spy on people all the time, then it comes across as untrustworthy, and then you have a poor relationship between the people and the government and it doesn't work ought as well as it could be.

>> LYNNE PARKER: Yes, I think there are a number of overarching themes that are applying to all of the topics of conversation we've had at this summit; certainly, the ethical matters, the security, safety, transparency, explainability, a lot of these characteristics that we want of our AI are desired for our AI are true whether we're talking about AI for hunger or AI for education or AI for partnerships or partnerships for AI.

I think that many of these challenges are pervasive in all of this and certainly we can't forget about any of these as we try to address these individual particular application areas.

So, certainly those issues are important. So, I don't want to end on a negative note, but let's see -- let me ask again, the panelists, what do you think the consequences are if we don't work together more closely?

>> UYI STEWART: That's a negative question.

>> LYNNE PARKER: It is a negative. I'm saying I didn't want to do it but I'm doing it anyway.

>> UYI STEWART: Put a positive spin on it.

>> LYNNE PARKER: Okay. Say it positively.

>> UYI STEWART: The positive is that there is really potential for developing world. This is not just Africa, but all developing world to undergo what is called leapfrogging, right, which is skip many levels, accelerate the progress, and catch up. Leveraging the best of this technology, that's what keeps us up at night at the Gates Foundation and why this panel is here. The future is bright. There is a lot of work to do, but there is potential in this technology to enable the developing world to leapfrog and catch up.

>> LYNNE PARKER: Terrific.

>> EKKHARD ERNST: I just can stress that point. I definitely agree with you on that particular issue. I think, yeah, to make use for economic development, especially, in developing countries is just amazing.

Just to respond maybe to the points raised earlier about privacy. I think you don't need all of that information that is potentially being collected. Sometimes you really just need information that people leave on the net anyway. I mean, I think if we only could get information that is collected by Facebook or Linked In, it would help enormously governments to provide public services, as I said education and job search tools. In areas where they have difficult to access properly, and I think this really simple information that is typically without any kind of coercion. Also, I think that could help us enormously, and as Uyi mentioned, would help these countries to leapfrog big time. Thank you.

>> LYNNE PARKER: Great. Konstantinos, did you want to say something? Francesca?

>> FRANCESCA ROSSI: What he said is really the danger, is really the danger of not being able to exploit all of the potential for AI especially for developing countries. You think -- I mean, just think of healthcare, you know, we can improve our own healthcare, and that's fine. We know we can improve it a lot by helping doctors, you know, analyzing much more data and knowledge from that data in their decisions in healthcare. But I mean, you can imagine how much more you can help doctors in developing countries where there are fewer doctors that are needed, and scarcity of resources and information and data and so on, so that really is where the data would be much more than in our own society and services and infrastructure.

>> LYNNE PARKER: Yes.

>> KONSTANTINOS KARACHALIOS: So, the problem is like was said about 50 years ago. He said that technology has brought humanity to a point where we don't need to make wars anymore. We don't need to kill each other for food and resources. We can have it all, and it still happens, so why?

Because competition alone cannot take us forward. We need to collaborate. This is not happening, and technology cannot help this. Technology is for competition and wars, if we don't stop this, it will not help. AI or whatever will become just one more tool of accelerating the conflicts, and so we cannot solve this technologically, but what we can do at our level, that at least we'll cooperate and create collaborating environments at all levels. This is what we need, but it is not only in our hands. It is in all of your hands through political participation to take care that we work together as humanity.

>> LYNNE PARKER: That's a great point to end on. So, let's thank our panelists for their great contributions here.

(Applause).

(session completed at 1600)

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