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BRIDGING DIGITAL DIVIDES

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>> We are about to get started with session 3. If I can ask all the panelists in session 3 to make their way down to the stage, please. Other panelists for session 3, if you could down to the stage, please. Do we have Professor Goyal in the room from telecom equipment manufacturers Association of India? If you are in the room, please come down to the stage.

>> CRYSTAL RUGEGE: Okay. I think we will get started. Ladies and Gentlemen, good afternoon. My name is Crystal Rugege and it is my honor and privilege this afternoon to welcome you to session No. 3 entitled Bridging Digital Divides. We have a multi-stakeholder discussion. Before we jump in to the discussion I wanted to first take care of a few housekeeping issues. Just to make sure that we have a smooth and interactive discussion. We will be continuing with a tradition that we started last year moving away from the traditional policy statements. And we will have an interactive discussion where we will ask eat of panelists a series of questions. They will each be given fifr minutes to respond and if time allows we will

invite the audience to ask questions as well. And possibly also solicit questions from social media.

I'm also aware that some of the panelists have prepared some policy statements. We ask that those statements be directly sent to the WSIS Secretariat and they will be published online as part of the outcome document for the high level policy tracks.

Welcome. I think we can jump right in to the discussion. So I would like to begin today's discussion with a perspective from Brazil. We have the secretary of telecommunications as the Ministry of science and technology innovation and communication, honorable secretary. As you know one of the main difficulties that persist in broad wand expansion is connecting poor remote and low density areas. How can we address this situation? And as we know the problem is compounded by not having the proper infrastructure to host primary public agencies in rural municipalities. What strategies can you propose that we use to achieve digital inclusion particularly in accessing quality public services and allowing people to exercise their citizenship? Honorable secretary.

>> ANDRE MULLER BORGES: Good afternoon. Excellencies, Distinguished Guests, thank you for the question. I think this is one of our main objectives and new tasks in the Secretariat. We have -- we dedicate our full amount of time to digital inclusion. In the cases of the remote areas and there are people mentioning this morning we use satellite technology to reach these remote populations because we are talking about very small communities in a population ranging from 100 to 1,000 people. And living in areas that are quite distant from a network backbone. So it would be almost too expensive to connect these people.

Although a large majority of the population, Brazilian population is concentrated in living in large cities. We do have many municipalities and many people in such a situation. We have an estimate of having around 42,000 such communities. And our approach towards providing quality connectivity is -- is by using a satellite connection, you know, high capacity and lower value. Usually the satellite solution is a very ex-pensive one to the general public. We have a program for connecting such communities sponsored by the Government. We receive inputs from the communication ministry, from the health ministry, from other ministries interested in providing the service. And we have -- we have a category where we provide a free service to such communities. We basically have a program to allow private enterprise to exploit the service, to lower income population. And in doing so, informing to do so they are eligible for the tax exemption. And also they get the land necessary, required infrastructure to install the equipment for free from the

municipality that is interested.

So this is a different approach. We are not using Governmental budget to fund these services and the population we can do it directly. We hope through these incentives the private enterprise we will exploit the service and as a matter of fact the note from the telecom operator that owns the satellite and other interested operators that it is viable that they have a business model to exploit -- to exploit the service. So this will give you assurance of continuity. So I think we look forward to the success of this program and we think it will raise significantly number of connected people. That's one way to go about it.

>> CRYSTAL RUGEGE: Thank you honorable secretary for sharing the innovative approaches you are taking in Brazil. I would like to hear the African perspective on this topic starting with Ghana's Minister of communications. Honorable Minister what are the challenges you have in Ghana with regard to infrastructure development and what steps are you taking to address them? How is affordability affecting the usage of ICTs by the rural communities?

>> Thank you very much. Grateful for this opportunity as well. One of the major challenges that we have experienced in terms of extending connectivity to all parts of the country has been the cost of deployment of infrastructure that is needed. And so what we have done to address that is to use invest access fund to extend the infrastructure working in partnership with the telecommunications companies who would then deploy the service to the unserved and under served and that to a large extent has reduced the capital that deployment would take and enable them to extend services of the Government has invested in broadband connectivity to parts of the country and is providing infrastructure as a service. And so the telecoms companies will release capacity from that and use it to provide the services. We also use a mix of satellites and connectivity as well and then partnering others equipment on factories to also extend services. It hasn't been easy but it has worked because we have been able to send services to some of the most remote parts of the country. And one of the last sites that we commissioned the joy on faces of people who have never been able to make phone calls from that location was something that we really cherished and encouraged us to do even more. We are trying to also encourage greater infrastructure sharing amongst the telecoms companies. And one example I use is if we look at all the fiber resources on ground we will able to cover the country 7 times but each company is laying the fiber in the areas where it is useful to extend their own services. There is congestion in certain areas and less resources in other areas. By forcing them

to share that infrastructure and release capacity where they don't have, we hope to extend services to all parts of the country. And also built a network of community information centers which we are using as access points for unserved and underserved areas so that in those centers they would be able to have access to IT services even if they don't have it in their own homes or in surrounding communities. And that has also helped because we are using those centers to train people and equip them with ICT skills which they need in the world that is unfolding today. So regardless of which part of the country you are in you should be able to find a center close by where you can have high speed Internet access and also find somebody who can assist you given the skills that you need. That and promoting financial inclusion in several other ways we have a digital inclusion -- digital for financial inclusion program that we are running as part of our universal access has helped bridge the digital divide. But we are mindful of the fact that we still have a long way to go and the Government is bent on investing where it has to and partnering with others to provide the services and hopefully by the end of our first time in office, by 2020 we hope to connect the entire country because we are determined not to leave anyone behind. We phrase I have today which still rings in my mind is reaching far -- the farthest first. Reaching the farthest first. I believe is a phrase that was used. So those who are farthest away from us we really do need to make conscious effort to bridge them first. So that's one thing that I'm take ing away from the sessions today. Thank you.

>> CRYSTAL RUGEGE: Thank you honorable Minister and I think we stand together in trying to reach the farthest first. I now like to turn to another esteemed panelist from Senegal. Honorable Minister of communication, telecommunications post and Digital Economy, in 2016 Senegal launched a digital Senegal 2025 strategy which is widely shared by all stakeholders. What are the key results you expect to achieve by 2025 and what are the main initiatives targeting the reduction of the digital divide?

>> Thank you very much, Chair. Colleagues, Ladies and Gentlemen, identifies the digital sector. One of the main emerging sectors of the economy and to create an environment and a framework to develop the Digital Economies. Therefore the digital Senegal 2025 strategy its vision is a digital literacy for all users with a dynamic and innovative private sector and with a performing ecosystem. This strategy rests on three pillars. And four strategic axes for priority with an action plan and 69 projects. Within this plan important measures have been undertaken and the general aim is to contribute to bridge the digital divide. And legislative and regulatory aspect.

Reforms have been undertaken through the simplification of provision of Internet services. And we have put in place several authorization measures. And the Government has granted authorization to three Internet access providers instead of 6 telecoms operators using 3G technology. Using 4G a number of approaches have been using 4G technology for a number of years.

Has implemented a national high speed plan in March 2018 which looks at exhaustive agnostics to strengthen 6,000 fiber optic cables and high speed 3 and 4G across the whole country. Senegal has an inaugurated Internet ex change point in August of 2018 to facilitate the access to people with digital resources. Moreover we have a regional exchange point in order to strengthen the development of telecommunication infrastructure. The Government has deployed in partnership with the World Bank, a digital technology park in an area. With regards to access to information and knowledge, Senegal has launched in collaboration with UNESCO and the Swiss corporation as well more than 40 projects of multimedia projects which are in the rural and remote and underserved areas of the country. In all of the public Universities furthermore, has put in place high speed broadband in order to allow the students to benefit from a free and permanent Internet access of the Government will strengthen digital inclusion. This has already been seen in 2015 as confirmed by ITU which has high -- which granted Senegal a prize.

The government has also identified six priority sectors which have high priorities such as agriculture, health, commerce, education, information, and industry and cultural sectors who have strong areas of growth. In 2022 it has -- to ensure resilient networks and trust in cybersecurity and to have information society which is inclusive throughout the country.

>> CRYSTAL RUGEGE: Thank you honorable Minister. Very excite things happening in Senegal. Let's now turn to Poland and hear from the President of the office of electronic communications. Mr. Sushi as the head of the Polish regulatory authority can you share what you have done to fill the gaps in access to ICT and the role of 5G and other major infrastructure investments in building an information society?

>> MARCIN CICHY: Thank you very much for the floor. I should say that with regards to the Polish, the most important issues that we have in countries, quite different differentiation between the infrastructure deployment between 0 and somewhere else, needless to say the vast majority of people can see this, extremely huge capacity. To only to bridge the ICT development but also to fulfill the end user's expectations. When it comes to the -- extremely huge problems with the Capex from the investments and has a truce in the problem that we are

lacking in the base infrastructure in some places. So the national coverage of the broadband access for the -- for NGN and still not sufficient and not in line with the European Commission goals. So what we decided to do many years ago is to use your funds so as to prepare the deployment of the NGN network. So fibers used. Now there is a special operational program of digital Poland with over 1 billion Euros dedicated to add to next generation networks, additional 10% of households is 1.8 billion. Households connected by end of 2020. It will be the fiber deployment of infrastructure strictly dedicated to the last mile of that's the connection between the passive infrastructure with the end user including the connections to the building and household. That's first part of the activity regarding the fixed infrastructure deployment but it is not enough. We know that in front of us is the 5G completely new standard of radiocommunication that we completely change our economy. That is to deploy the 5G infrastructure in one city or and by 2025 which is to deploy the 5G infrastructure in all big corporations and all transport hubs of needless to say the 5G infrastructure is completely new standard of communication with extremely low latency, lower than 5 milliseconds. Frequency higher than one habit per second and over 100 devices per square meter. It is not only about the market and end user perception what kind of services could be available for him but it is also about the economy and the extremely huge boost in production engineering, for example. So it is made of two pillars that collaborate in our strategy, delivered by the Government two years ago. It is a roadmap how to fulfill the end user expectations instead of not only of the let's say communication tolls and services but also when it comes to some additional public services. Like, for example, administrations of digitalization of public services. So the communication with the end user, between the end user and the Government, for example, or the work of government starting from -- going through these -- and finally to over 3,500 comments that are available in Poland. Last but not least I would like to say that when it comes to the 5G infrastructure investments, no one wants to be Santa Claus. We have to cooperate with the partners. It is the case of Capex and pay back. For example, on the European point of view, we get the problem with lacking of investments. It seems to be quite huge Capex over 900 million Euros to spend for the 5G deployment by the end of 2025. And on only 500 million Euros for the revenues.

So the gap is over 55%. That's what we need to face in nearest future. Thank you very much.

>> CRYSTAL RUGEGE: Thank you very much, sir.

(Applause.)

>> CRYSTAL RUGEGE: We are fortunate today to have the CEO of SAMENA telecommunications Council representing the interest of a broad geographic region, Mr. Ba what are the key enablers to overview the digital divide and how can collaboration between the public and private sector be accelerated to achieve a better enabling environment?

>> BOCAR BA: Good afternoon. Thank you very much for the invitation. First of all I would like to commend the words that have been said by the Delegate from Brazil and also from Poland because from a teleoperator perspective this is music to our ears. We have a -- this is extremely positive message sent to the investor when we are referring to taxation, when we are referring to viability of the business model for the 5G and having the dialogue. We need to look at the component of this so-called digital divide. That's a multi-stakeholder component. We have factors that can narrow or widen the digital divide. One of the factors is infrastructure factor. And this is provided by the telcos. They have an investment and one in charge of putting the infrastructure on the ground. Or we used to stay on the ground or satellite infrastructure whether it is wireless, satellite or fixed lite. Second component of this digital divide is a political and regulatory factor and we need to have the Government support and need to have the readiness of the society. We were referring earlier to the literacy. I would also refer to the affordability for the handset of the mass population. Digitalization is about having handset affordable to the mass population. So Government has a role to stimulate the demand and to educate the population so they can make a good use of the ICT. These are let's say on a few components of this digital divide. Our roles, telecommunication council represent almost 80 operators in the 25 countries with investment combined about 300 billion dollars. So the investment is available to help achieve this Digital Economy. Now how do we go about that given that the operators are at the cornerstone of this enablement because once they do the investment the entire industry is moving. The point that I would like to bring forward and as a message is we can achieve that through smart collaboration with regulators. We need to frame the proper regulation that will incentivize investment, that's No. 1. We must have policy at policymaker level to stimulate the demand and also need to align our priorities in terms of agenda. Now when I am talking about dialogue, the dialogue also has to happen between private sector and private sector. When we are talking about the last miles there -- there are some opportunities of collaboration between mobile operators and satellite operators because infrastructure is there. The satellite is there. We have the coverage. So we may have some

agreement dialogue decision together on the way that we can optimize the Capex that sustains the entire society. Framework 5G is clear tomorrow. If we have 4 billion mobile connected with 5G and IoT we will be having 50 billion devices to connect. Ratio is 1 to 10. Therefore we need to discuss about the enablement of digital services and we are heading towards a data driven economy with -- on policy regulation for cross-border data fields. That's very important with data privacy and protection. Solution is we have everything on the table. We need to enable this dialogue. Align the priority, identify the key area of collaboration and set objectives and measurable target to be able to achieve those stages. Thank you very much Chair.

(Applause.)

>> CRYSTAL RUGEGE: Thank you Mr. Ba for giving some very concrete ways forward with the examples from SAMENA. I would like to bring in a practitioner's perspective from Netherlands. How does the skills gap play a role in this? Secondly, what are the practical recommendations you can share from your experience in the Netherlands and Pakistan to bridge the digital divide?

>> Thank you very much for the stage. The objectives to achieve to the general equality and economic empowerment of women through digital inclusion. We are addressing the existing skills gap in the ICT sector and associated digital gender divide. Now we -- we are doing this through our innovative mentoring program to teach women the key e-skills required to pursue a career in the ICT sector. The program is a collaboration between women in tech communities and other IT professionals. IT industry. And academics and some non-profit groups of since the launch in 2015 in Amsterdam our annual digital skills bootcamp and conference has impacted many lives. We are now in talks to also replicate is further in selected countries in both developed and developing world.

What we realize during the course of our work is that access alone is not enough. Today digital literacy is fundamental for finding a job. Close to 90% of jobs in future are going to require some kind of digital skills. It is estimated that by 2020 there will be a skills deficit that equates more than 1 million jobs and this is it in Europe. In order to boost competitiveness and productivity and affordability in the workplace, that skill gaps need to be addressed and we need to do that by updating the skills gap and upgrading the skills to ensure innovation and growth. According to one estimate there are only 20% of 2.7 people working in the ICT -- there are only 20% of women. And these are again numbers from Europe only. Women not only are disproportionately working in the ICT sector but they are also leave as they progress in their careers. There

is a big lack of data as well which exacerbates the problem we have with labor supply shortage. What we do in our program is in addition to digital skills gap, what we saw was a lack of safe spaces to learn new skills and unconscious bias and gender stereotypes. These were the major barriers that were hindering women to join the Digital Economy. We know now multiple studies have shown that more gender balanced and diverse teams actually perform better and more efficiently. The code to change supports professional women from diverse background who want to move in to digital or technology based roles and our prime role is to provide a safe learning environment. Women would have more economic independence if they had the tools to build the solutions or to access the existing jobs. So we are working for future where women are creating technology and not just building consumers. We are proud to share that our e-skills graduates and mentees have started new technology projects and building new apps and exploring new employment opportunities in the technology sector. We invite all stakeholders, especially the Governments and private sectors to invest in female entrepreneurs who are working on groundbreaking solutions to address the gender digital divide. Thank you.

(Applause.)

>> CRYSTAL RUGEGE: Thank you. And the work that you are doing to create safe spaces for women in closing the digital divide. I'd like to live the last word to our panelist from India, the Chairman and President of the telecom Equipment Manufacturer's Association of India. Despite all the latest technologies the issue of connecting the unconnected still exists. What is your take on this? And what is the impact of new technologies on education, and capacity building in closing the digital divide?

>> NK GOYAL: Thank you very much. Thanks to all the colleagues and thanks to ITU for the opportunity. I think my topic is out of box and let me speak on behalf of millions of students who are trying to find other jobs and millions of unconnected. Okay. The -- technology experts we have in the world to give you more speed, more better, more technology, under the potential of giving more (inaudible) to the students.

But the basic thing -- and we are so -- technology that unless the technology and the skills are across the globe, they are -- they are not easy to be implementing down the lines. Now having said that what to do. I think I would like to call upon all the technology persons in the world from this. Please -- as a plan for how you would like to train the students across the globe. What about the cost curriculum. What about the teachers training the teachers. All technology we are developing today. Move from 3G to 5G. They are talking of AR, VR, IoT end to end

and they move further. Main -- yes, they can be but primarily -- (inaudible). Technology for -- of course, everything we develop can be used by them but they are not being used. I hope you have -- I would think -- I think the time is let us request the technology people to become something until -- the what they are trying to do today. And think the need is that the -- involving this type of problems they come to the percentage and but they need technology which are affordable, they can be dependent it is not that they need 5G today. I'm not saying that we should deprive them of IGCs but let them first have (inaudible). And this I solve. Thank you.

>> CRYSTAL RUGEGE: Thank you very much sir. We have six minutes remaining. We have time for one question from the audience. Anyone have a burning question. Yes, sir.

>> Good afternoon. Minister of -- I would like to ask the colleagues our -- can you speak -- can you translate? How come (inaudible) (speaking in a non-English language). How can Developing Countries -- networks which might be -- competitor other countries, how can these countries can make the most of opportunities from international institutions and through society in order to influence additional infrastructure and to follow technological development and to implement the knowledge society. Thank you very much.

>> CRYSTAL RUGEGE: I think some of us were --

>> If you could -- I have a very specific question. Developing Countries, we don't have the financial means. How can these countries follow technological development and how can they take the opportunity, for example, in Yemen, we have only 2G technology and Internet is very slow. How can technology companies help us in this area in order to implement a digital infrastructure which is developed in order to keep up with technology, technological developments and give a percentage to design. Thank you.

>> CRYSTAL RUGEGE: Thank you, sir. Would you like to it?

>> I would like to say that we are -- from the highest latest technology. And -- our country has developed some -- (inaudible).

>> For putting in place infrastructure, telecommunication infrastructure which is an infrastructure to support the development. It is connecting the population, telecom operators. Government in most of the cases are not the one connect the people. It is telecom companies. They have the money to invest but as an investor we need to have a framework for investment. No one is going to invest without business case or not investment. So one of the criteria is stability. Even though we have companies that can invest in two countries without high risk, high reward and the initial investor is telecom company.

Now we have other ways of investing through different third party investment. It could be World Bank. We had them this morning. It could be regional Government engagement with your country in need. So it is a long discussion. I don't know Chair, if we have time to develop it but solutions are there. It is a matter of having a dialogue and identifying the needs. Now I would be very careful on the statement made from my colleague, not that I am promoting technologies but I wanted to make it clear for 5G it is not an evolution of 4G. 5G is a revolution. It is a complete different environment. If as another -- if 3G is a small fish, and 4G is a bigger fish, 5G is not a fish. 5G is the ocean. So it is the environment. When we need 5G, I wrote it. Depending on the countries we have to adapt the technologies.

>> CRYSTAL RUGEGE: Thank you very much. That's a good note to end on. Please give me a warm round of applause for our distinguished panel. The final summary of this discussion will be provided during the concluding session tomorrow at 4:30 and I invite all of you to attend that session. Thank you for your kind attention. It has been a great pleasure to be with you this afternoon.

(Applause.)

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