

FINISHED COPY

WORLD SUMMIT ON INFORMATION SOCIETY FORUM
BRIDGING DIGITAL DIVIDES/DIGITAL ECONOMY AND TRADE/FINANCING FOR
DEVELOPMENT AND ROLE OF ICT
GENEVA, SWITZERLAND
9 APRIL 2019
1645 CET

Captioning Provided By:
Caption First, Inc.
P.O. Box 3066
Monument, CO 80132
800-825-5234

This text, document, or file is based on live transcription. Communication Access Realtime Translation (CART), captioning, and/or live transcription are provided in order to facilitate communication accessibility and may not be a totally verbatim record of the proceedings. This text, document, or file is not to be distributed or used in any way that may violate copyright law.

>> MODERATOR: Good afternoon, everyone, we are going to get session 6 started. We are already way behind. So welcome to session 6 entitled bridging digital divides, digital economy and trade/financing for development and the role of ICT.

I'm your moderator for this session, I'm Valrie Grant and I have an esteemed panel this afternoon to look at the session.

Before we get into the session, I have one announcement. The WSIS prizes ceremony is going to be taking place at 5:00 p.m. after session 5 in room 1. This session is going to be looking at ways to bridge the digital divide between the developed and Developing Countries, trends in technology, how we leapfrog innovation in some economies and finance in some innovation. This afternoon you will note that we are already behind time, so ours is the responsibility to ensure that we stick to the five minutes.

So just to advise that we have moved away from the traditional policy statements to policy sessions and the new format will see me asking two questions to each of the panelists, and I'm going to ask that the panelists stick to five minutes or less and respond to these questions so that we can have a few

minutes hopefully for some audience interaction.

So to get us started I have two questions for the honorable minister from Armenia. How has the high tech industry changed in the last five years in Armenia and what in your prediction will take place in the next five to ten years? What is the most interesting trend in high tech sector that you are seeing in 2019.

>> HAKOB ARSHAKYAN: Thank you very much for the opportunity and for the, for organising this beautiful event. First of all, I would like to start from the historical part of the high tech of Armenia. I find it very important to have a history of mathematics, physics, and other parts of the fundamental knowledge of the high tech and digital economy.

So starting from the Soviet Union times, Armenia has been recognized as a Silicon Valley of the Soviet Union. We did 1.5% of the population and the overall Union, it has been producing more than 20% of the electronics and precision engineering devices of the Union.

So the first silicon computer has been designed and manufactured in Armenia in Silicon Valley called Niri 1. Starting from that time, the basics of the mathematics, physics and algorithms was deep in the name of the country. In the recent five years the revenue of the ICT sector has grown seven times -- excuse me, during the recent seven years, five times.

The growth of the overall revenue, and it is actually from the Artificial Intelligence into semiconductor world's largest companies in semiconductor design are based such as Synopsis, Metro Graphics, Cisco and National Instruments. These kinds of big companies find big successes in Armenia.

Overall, we have very good tax privileges for, especially for startup companies. New companies that are, that have an innovation and they want to grow very fast, we give them tax privileges in the country. We charge them zero taxes actually. So that also brought a big impact to the high tech sector in Armenia. The number of companies actually now approached 1,000 companies in the small country.

About the ICT infrastructures, the first pilots in the world was done in Armenia, piloting 3G technologies. Currently 100% of the land of Armenia is covered by 3G and almost 90% by 4G technology. And now our operators are keen to invest into 5G technologies and pilot it in Armenia. I hope that we will see this big progress in this upcoming months or year.

Amongst these new changes in the Government of Armenia, you all might know that ICT and information technologies dramatically changed also the political situation in Armenia. When the information is available for the whole country, the revolution happened in Armenia in the last year, and very peaceful and

without any injured person we changed the country's authority and now in the process of also a big change in the Government. We are actually creating a new ministry which will be responsible for high tech and ICT which will be called Ministry of High Tech Industry. This is another big change that is happening currently in Armenia.

One of the largest events in the world, in ITU world is the World ITU Congress which will be happening from October 6th to 9th in Armenia, and I have the pleasure to invite all of you to attend the event. We will be happy to host you there. We will also have a ministerial round table there. I will be also sharing the agenda once we have it set up.

So with this I would like to finish my speech, and I also I would like to also add that we are heavily investing into the ecosystem of startup ecosystem starting from venture funds to accelerators, incubators, and also knowledge-based industry. Thank you very much.

>> MODERATOR: Thank you for explaining to us all of the wonderful things that you are doing to really bridge that digital divide. We now ask Mr. Ali Alwaleed Al-Thani, the economic advisor to the Prime Minister of Qatar two questions. Tell us about Qatar's experience in rarely used technology and digitization and promoting its own domestic development agenda as well as what do you think can be done to bridge the current digital divide between the developed and developing nations from the multilateral standpoint?

>> ALI ALWALEED AL-THANI: Thank you, Valrie. Thank you for these questions. I will start by talking about our experience with regards to using ICT to achieve sustainable development and here there has been many initiatives, both on the Government level and also more on the local level on trying to enhance ICT especially with regard to Civil Society.

We have a very vibrant Civil Society that is moving into the ICT space. I think originally we ranked one of the highest in terms of holders of social media accounts on a per capita basis. So this is a very fast growing space domestically. Now, in terms of Government policies, we have done plenty to find of enhance FDI, especially in the space. There has been a lot of work done on data centers. I think it's a lucrative part or area which can be developed but also in utilizing the concept of Smart Cities. Now, in Smart Cities we have two examples, and they are, I mean, very unique examples, by that they are completely green field projects.

So these cities were developed from the onset as Smart Cities. One is Wasel and it is currently now in an advanced stage. It is near completion. This Smart City platform can utilize technology to, for example, enhance better rain

management, so through the Wasel command and control centre and Smart City application, the LCC can detect areas in which water would accumulate and redirect services there to extract the water in case of rainfall, but also even with regards to civil defense if there is a fire, it can close traffic lights, it can direct services, it can download schematics for different buildings in the city.

So using this platform Smart City platform there are many different applications that can help enhance sustainable development. Another one is Nusherub is under development. It has over two million sensors installed and this is a very exciting project as well to oversee. We are doing plenty as well with the World Cup. One is using 5G to enhance the user experience, so now via the 5G network and virtual reality the user can get an infield experience on the side of the pitch so he can feel as if he is right there watching the game.

And this is something that's currently being trialed and applied. On a multilateral basis there can be plenty done to bridge the digital divide. There has been some movement. Currently there is the G20 communique or also known as the Antalya communique, however, I think on the other front, on trade rules, especially in the WTO, there can be some movement made on e-Commerce, on the digital economy. I know that currently there is an initiative for a plurilateral and we support this very much.

We join the joint communique in Buenos Aires on e-Commerce and we look forward to launching negotiations. Now, with the fourth industrial revolution and automation creating trade rules could help both bridge the divide and assess the work force in making the transition to the new economy in which they can be reskilled and re-educated other than utilizing services via an ICT platform.

So that concludes my remarks. Thank you.

>> MODERATOR: Thank you very much for that, for highlighting some of your local initiatives as well as some of the initiatives that you believe on a global scale can assist in helping us to leapfrog this innovation and bridging that divide. Now, I am going to turn my attention to the permanent secretary from Rwanda. Your questions then are what are some of the initiatives that your country have taken towards the digital inclusion as well as what is the policy intervention that you have used to narrow the digital divide in Rwanda?

>> CLAUDETTE IRERE: Thank you very much for the questions and for the opportunity to address a topic that speaks very, very largely to our hearts. Just imagine this. You build a costly highway, and you expect vehicles to start using it, and then you realize that only a few of those vehicles are using that highway.

Most prefer to use the small shortcuts, what we call Pania roads back home, but then you realize that it's not that obvious for those vehicles to use the highway.

They are afraid of the unknown. They would rather hitchhike and most have no interest in riding through the new fancy highway. On another hand, it is costly to own a vehicle and gas is too expensive. This is the depiction of our reality. We have invested in the broadband infrastructure, and as it is today, we are not getting the traffic we went back to the drawing board as a country. We sat down and together with different stakeholders, we started designing on top of the broadband policy we designed what we call digital talent policy that specifically outlined our targeted groups and we designed programmes that would address the challenges identified in those targeted groups.

The most recent and famous one of those programmes is what we call Digital Ambassadors Program. It targets about 5 million citizens. It's model is designed in a TOT way, where the trainers are young people, we call them digital Ambassadors, 50% are female, 50% are male. And the young people with disabilities make 10% of the total. They are trained to train the citizens, and they teach them how to use different applications, Government services, talk about taxes, procurement, transport, all of these they can't do them by themselves.

What this creates is that it bridges the generational gap, the intergenerational gap, and it creates employment opportunities for the youth and Government efficiency is enhanced as citizens are able to interact with Government digitally. This reduces time spent cueing money and definitely corruption. It also deliberately gives equal opportunity to the underrepresented, women and people with disabilities.

Digital Opportunity Trust, our implementing partner, is working on exporting this model and very soon other countries will start using the model. In addition to this effort, we cannot talk about bridging the digital divide if the cost of connectivity is still high, if it's not content produced in the local language, and most importantly, if the devices to access content are not affordable.

We are coupling the model we just talked about, the Digital Ambassadors Program, with incentivizing smart phones and computer Assembly and manufacturing companies to avail affordable devices and telecom companies are getting more and more innovative in creating data plans and devices that work in our context. We are not oblivious to the fact that we can't do this alone, and through this platform, we are looking at forging partnerships to address these gaps and to create exportable skills. With that, I thank you.

>> MODERATOR: Thank you very much for highlighting those

approaches to digital inclusion. We will now turn our attention to the digital economy and trade. We notice that the U.K. has been very active under the WSIS Action Line C7 which speaks to Governments, international organisations and private sectors have been encouraged to promote international change and the use of e-Business and the U.K. is a strong advocate of this approach. Why is this so? Given the fundamental challenges and emerging opportunities around connectivity, what do you see as the relationship between this action line 7 on trade and business and the action line 2 on infrastructure?

>> JULIAN BRAITHWAITE: Thank you for those two questions. On your first question, which is why do we support the promotion of the benefits of international trade and the use of e-Business in this area, I think the U.K. has a dual perspective on this. First of all, the U.K. is one of the most digitalized economies in the world. We export over \$65 billion worth of digital goods and services annually.

In 2015 the digital sectors contributed 7% of the U.K.'s gross added value, and employed 1.4 million people and created jobs 2.8 times faster than the rest of the economy. So it's a hugely important sector for the U.K. economy. Second, we are one of the largest supporters of global economic development. We are one of the few countries to meet the U.N. target of investing .7% of gross national income on overseas development systems the only G20 country to do that. So from this perspective we can see how opening communications markets to international trade is driving sustainable development and we want to share this experience and ensure that no country is left behind.

I'm pleased that the U.K. is hosting a session on Thursday afternoon looking at the experience of countries from different regions in opening up their communications markets. This will be an opportunity for us to learn from one another and I hope everyone here will be able to attend. We believe that these digital discussions in the trade Forum should promote development and inclusiveness nor to drive sustainable economic development and we support the efforts being made across the agencies in Geneva to promote the participation of the Least Developed Countries in the discussion and the global digital economy itself.

Through our department for international development back in the U.K., we will continue to offer technical assistance and logistical support to a number of developing and Least Developed Countries. Coming object your second question, which is about the links between the action line seven on trade and business and action line two on infrastructure and what we think about that, we think that clearly one is absolutely dependent on the other.

Let me explain why that is. Our shared ambitions for global

digital economy require huge infrastructure development to enable connectivity. And that in turn enables sustainable digital transformation. We know from experience that countries which open their telecommunications market to trade and investment are able to benefit the most and that Governments need to build strong partnerships with the private sector in order to generate the kind of investment and the scale of investment needed to achieve this.

We think the ITU has an important role to play in promoting connectivity and contributing to the SDGs both through specific projects in country and by spreading know how and best practice. An effective telecommunications market is essential allowing consumers, businesses in the wider economy to benefit from three things, first, investment which enables growth and renewal of services and infrastructure, second, competition, which helps ensure choice and value for money putting downward pressure on costs and upward pressure on quality, and, third, regulation which Proportionate and independent provides consistent framework for framework, investors and consumers.

We will be discussing all of this in more depth on Thursday.

>> MODERATOR: Thank you very much for that. So now I want to turn my attention to emerging technologies and for this I call on the representative from Greece. When we speak of AI it is really right now one of the most important emerging technologies many will see. What are the challenges in regulating the competition in this field? And, two, energy efficiency becoming a performance parameter of growing importance in non-mobile ICT.

>> KONSTANTINOS MASSELOS: Thank you. I'm grateful to be on this panel. I would like to congratulate the organizers for the great event. Artificial Intelligence in some instances of AI like machine learning and deep learning are for sure dominating the public interest, sometimes public concern. It's definitely one of the hot topics today. I believe that these technologies are at least the underlying part are not new, they have been there a long time, but I think it's the first time that we see Artificial Intelligence moving out from the lab and the research side and reaching out lives of millions of people worldwide.

For sure there are several challenges, regulatory challenges related to Artificial Intelligence, and this, of course, is definitely a debate we see more and more. I would focus on a couple of issues around Artificial Intelligence that indeed introduce significant regulatory questions. One is ethical issues around Artificial Intelligence, the other one is access to data and privacy. Well, talking about ethical issues, in many cases, we treat ethical issues in a philosophical way but I think ethical issues are quite practical when we talk about Artificial Intelligence. So in my opinion, algorithm bias is a key issue

when discussing ethical complications of Artificial Intelligence and we know there are many organisations with AI agenda today that failed, had some failure experiences around this.

Just to give an example that I came across recently, some researchers introduced three stickers on the road that were, that were not visible by humans, but these three stickers were able to confuse an auto pilot AI electric car and made it change lane and come to the other direction of traffic. So this is the kind of quite dangerous case of AI bias and AI technology when talking about the ethical implications.

As far as data and access to data is concerned, well, of course we need data in many cases to train AI models, and for inference in AI context, and previous access to data is a hot topic for debate. At European Commission level we have the GDPR regulation and also the new Electronic Communications Code, European Electronic Communications Code that are two pieces of regulation that try to tackle this such kind of issues.

Of course, the data issue for AI can be also faced in using technology. For example, we have seen recent results where researchers try to reduce the amount of data needed to train an AI model and in this way while achieving same performance and same quality of results, the amount of data that is used is reduced. So this is another approach, and I believe that we will see such kind of technology development also in the future despite the fact that these are not new.

A few comments around energy efficiency. Well, of course, energy efficiency is introducing interesting technology challenges. It is, of course, an operational expenditure problem, but in my opinion on top of everything, energy efficiency is a digital economy issue and a sustainability issue.

Well, if we see the power consumed, the energy consumed by today's servers to implement, to execute, for example, AI kind of applications, we cannot, we cannot leave energy efficiency with other proper technological solutions because otherwise our digital economy will fail. Thank you.

>> MODERATOR: Thank you for explaining that. So we recognize that for the first time more than half the world's population is online and Poland has a lot of connectivity. So let me ask this question then, 80% of the households have Internet access in Poland. Having achieved that milestone, you are confronted with, I suppose, new connectivity challenges such as smart ecosystem for industry 4.0 enabled by 5G in your opinion and professional opinion as the President of the Office of Electronic Communications, which is a national regulator for Poland, what is essential to the success of industry 4.0 powered by emerging technologies?

And secondly, the rapid expansion of disruptive technologies

brings a lot of benefits to society, and accelerates economic growth of countries. How can we ensure that everyone including children and youth benefits from the technological advancements?

>> MARCIN CICHY: Thank you very much for these questions. I start with the first one. I think that the most important, the most crucial issue is the understanding and start this discussion with answering to the previous questions because when we are talking about, for example, Artificial Intelligence, Internet of Things, smart grid or 5G, we need to clarify how it's organized in this, let's say in the way the value-added chain for the end user is prepared.

First of all, we have got some kind of basement like 5G or Artificial Intelligence and what follows from that. We have got the other technologies to B to C levels like, for example, B to C, machine to machine communication, Internet of Things and advanced solutions that bring us closer to the Information Society, and, for example, on the WSIS level, to the fulfillment of SDGs.

And having in mind that Poland has successful infrastructure rollouts and what follows from that in let's say the penetration for both fixed and mobile services as you have mentioned about the fixed KPI, but for mobile the penetration is more than 140%. And we have got extremely low price elasticity of demand and we have extremely good conditions in terms of let's say quality of service and the way that end user is able to, let's say, change the operator in even 24 hours.

I think that the most, of course, we are one of the few countries that generate the lowest ARPO for user. So from the end user perspective it's very good scenario, from the entrepreneur perspective it's a little bit difficult to generate and appropriate a return on assets and generate and appropriate investments, but having all of those things in mind, I would say that the most important issue is in understanding what follows from what.

And we started with the infrastructure rollout as the most crucial issue to deliver these let's say KPIs like penetration, for example. First of all, we decided to use some additional EU funds that were available for us and the other issue is that we prepare amendments to acts and affiliated acts so as to boost incentives for the entrepreneurs to start the infrastructure rollout. What I would like to say is that rather Telco regulator, I become more and more infrastructure one that I am responsible also for some disputes between owners, landlords and tenants of buildings in terms of in-house wiring. The other issue is that also even with this 80% of coverage, we have got still 20% that are, let's say, quite difficult to cover with the FTTH infrastructure will infrastructure because it's strictly

about the rural areas where pay back from the investment is even more than 20 years so negotiate wants to be the Santa Claus in this case and we need additional incentives for operators having in mind the supply part of the market, we should take into consideration the demand one, and I would like to switch to another question.

I would say that, of course, apart from this, let's say, interconnection relations we should be aware of the let's say human expectations. I mean, every year we organize, it's in December, we organize consumer service regarding the expectations, end user expectations in terms of the market developments. And what follows from that every year we prepare some campaign for starting from the youth education in digital skills strictly dedicated to over 70,000 of our pupils, how to use Internet correctly, how to avoid some, let's say, negative feedback from the Internet usage, but we are going for the next generation, I mean, the parents are coming back to us with overpriced invoices, overpriced bills and finally we prepare some let's say trainings for the elderly, 60, 65 plus to prepare them for the fourth industrial revolution that they will take part in in the nearest future. Thank you very much.

>> MODERATOR: Thank you very much for those responses. So now let's get a private sector perspective on some of these issues. So the representative from Subah. Transformational governance in this digital era hinges on innovative and smart solutions deployed for citizens' benefits. What complimentary rules should exist between Government and the private sector especially in developing economies to aid the matching of research and analysis in technology innovation with the associated transformations in e-Governance, business and solutions and in the interest of efficiency? Also there is generally an absence of financial mechanism in developing economies to support the private sector in the drive towards a sustainable uptake of research and development in terms of disruptive technologies.

What are the practical ways that Government can aid the private sector to access capital from various bodies and finance houses to support sustainable technology are indeed a fast track that migration towards the diffusion of disruptive technology that they so desperately need.

>> KWAKU OFOSU ADARKWA: I sit here casting my mind back in 2002 during preparation for the WSIS Africa founded the idea of digital solidarity. Digital solidarity idea was brought down to the WSIS platform, and it was not until 2005 that the global community accepted it and also reframed it as a digital solidarity fund. This fund Africa and for that mat are developing economies saw as a way to harness resources. So that

the pace of R and D in the Information Society could be equally matched said that the benefits could be to both south and north. Soar what had happened is that we see Europe and the EU fashioning its model of trying to sustain research towards for disruptive technologies. African Union also comes in and develops the tech and innovation strategy for 2024 which has much against the SDGs. In the case of Europe, we see financial models fashioned to back R and D among the SMEs. When you come to member countries we notice that the universality fund has also been created.

These funds mostly have resources from the telecoms being put into the fund, minimal as they are. So as the telecom's funds get minimal, so also the fund also. And in that matter the attention that needs to be paid to the private sector after Governments have invested so much in infrastructure, so they were much R and D to mix the impact of the disruptive technologies becomes very minimal. This morning we heard the Secretary-General talking about the rapid emergent of Internet of Things of machine to machine, we are talking about 5G. We are talking about Artificial Intelligence. How quick and how receptive are the smart systems and the smart technologies being researched into in the developing economies?

This is the challenge. On this platform, therefore, 16 years of WSIS review, my position is that the ITU may have to look at the ideas of the digital solidarity fund again and let us power the cushion of a fund that will support innovation development, research and development in both north and south collaboratively. From my own small area where I serve as board Chair of the Subah info solutions in Ghana, what we have done is to register as an ITU sector member, benchmark the R and D at the sector meetings and ensure that at fora like the WSIS ITU Telecom world will market our products so that sustainability of research and marketability of products can be achieved.

Let me say that WSIS is has gone a long journey. What has to be done is to look at the principles of the digital solidarity fund again, and under the umbrella this time we have the policy which will be consensual in our innovation fees. At the time that this idea was launched I was in the department of secretary Ghana paid its humble contribution into the fund. Let us look at that model and through that bridge the gap in research and development between the north and south. Thank you very much.

>> MODERATOR: Thank you very much for those comments so now Estonia. What we like to know is what can we learn from Estonia's experience nationally in terms of overcoming the digital divide and what are the global initiatives that you have contributed to? Additionally on the matter of the digital economy and trade, what has been Estonia's journey to this joint?

>> ESTONIA: Thanks. I will be a bit unconventional and understand that we use this term divide because it's controversial and attracts attention, but I think it could help us a bit if we will think about this that there are people who already have used the Internet who haven't yet. So I would say first there is I plain and then it's going up. The first steps of those that have used it a couple of times and the peak where people are basically using it daily. So I think the actual question is how can we move all of these groups of people forward.

I don't think there are two distinguished groups we can say those who never use or will never use or we should do something special and they will start using and then who use it all of the time. And also those who today are maybe the most active users and they also need new services and incentives so I think we should take a much better look and logic would be that we should help those that will be left behind but I think in, for the reason of development I will try to drag everybody on and I will explain why I think that.. What is working is the city and state relationship. And I will bring this analogy here that private sector can be more creative in bringing new products we have never imagined and the public sector will have a hard time fighting the private sector.

What the public sector should be doing is making its own operations effective and here is another answer that actually when you look at the possible services, it will make the operating of the state cheaper for the state but also from the side of the citizen. If it will save a huge amount of time it will make it effective for you and also the same from the standpoint of companies if they waste less time interacting with the Government, actually it is a clear, clear surface for their own site.

So your question is how and what have we been doing. Since we have now the experience of more than two decades, more than ten years ago, we understood that there is something we can try to share. So let's say mainstreaming the e-Development into our development programmes has been one of our targets, but, of course, our national is very small and it's not the only thing that we do. So we also in the EU have been very actively speaking on behalf of making the digital issues one of the bigger parts of the EU global portfolio and EU is supplying more than half of the WSIS development assistance.

Our model is based on open sort software, so that is something that I can always say that if you are looking at the possible options, that's the first thing to look at because that will make the system much easier. If you are doing a public service, there is no reason why it should be something else.

And, of course, in our case when we started, we were still recipients of assistance so our logic was to start putting together bits and pieces we already had. Which means that in most of the countries if you look internally will probably discover that some kind of databases you already have. I understand that there may be differences. Some countries don't have a population register, so on.

So you start with what you have and you try to integrate them and you get the synergy that your land register is combinable with your legislation register and your car register. So a person can apply for a loan because the bank can evaluate the person's right to a land titles on the basis of an e-Registry instead of bringing papers back and form. That would be my advice. I don't think you can do everything at one staple. Our experience was that there was quite a lot of resistance. Why should people transfer from the paper which felt safer to an electronic means? So our solution was always to keep the paper option available.

For taxes, 98% use the electronic version. Some people still use the paper version. Plus what we also did is some colleagues with whom I talked, there is a literacy issue. In our case it was more generational. Older people said it's a new thing, it's very hard to learn, so we tried to institute learning possibilities for people, pension clubs, for example, learning. Plus, of course, everybody in the public sector had to do it because the work methods in the public sector changed and nowadays you certainly wouldn't be able to fulfill your functions unless you are able to be totally competent on using whatever is available. So and, of course, in that sense also look for the possibilities that different development corporation programmes have offered. Thank you.

>> MODERATOR: Thank you very much for those comments and for explaining the process you are taking as well as to give us ideas as to how we can move forward. We were supposed to have the honorable minister from Benin, but she is not available. So my apologies for that. This does, however, leave us a couple of minutes for audience interaction since my panelists stuck to five minutes or less. So we have that opportunity.

Are there any questions whether from on site or remotely. We will be happy to take those questions at this point. We have one in the back I'm noticing. I am not able to see from here who the representative is. Could you go ahead, please.

>> AUDIENCE: I'm sure that is me. Thank you, Madame moderator. My question goes to the gentleman from Poland, Marcin. How do we strike a balance between trying to ensure the security of users in an environment where we put Artificial Intelligence, more specifically as it relates to machine learning

and deep learning and at the same time ensure ethical behavior in that area. But we are also trying to ensure that we don't startle the development of these technologies. If you consider the gender protection regulations, for example, they give the rights to individual to ensure that any decision that is made by machines is interpretable, which means some human being should be able to explain how that decision was made.

Does it not stifle the development of these technologies?

>> MARCIN CICHY: Thank you very much for this question. I think that you couldn't be more accurate. Rephrasing your question, you asked about the definition and the security. And the question is who is responsible for this kind of security because when it comes to the regulatory, let's say, playground, I do not feel that regulators, regulators have enough to take full responsibility for that

Of course, partially we can regulate the teleco industry, so it means some wholesale interconnection agreement between operators, even the cooperation between over operators and over the top let's say providers. Some other entrepreneurs in this value added chain from the end user perspective, but on the other hand, as we are talking about Artificial Intelligence, even when we are talking about the industry 4.0, for example, Internet of Things or even machine to machine communication that the Artificial Intelligence somehow is based on in terms of results, if the question is who is responsible for that, what kind of authority? I do not really think so. Governments? Partially, yes, when it comes to let's say Artificial Intelligence strategy and some regulations imposed on the national level, but what it comes to the general approach, when it comes to European Union level, when the Barack is this value of European regulators for electronic communication that is responsible for teleco industry, I do not think that we have got an appropriate regulatory measurements and regulatory rules to regulate that.

So it's open question mark and open discussion who should take this responsibility on its back, and from my perspective as an engineer, I'm a little bit aloft to answer that question, because it's quite difficult. As a clerk I would say let's leave it to the governmental level to sort the case out. It sounds nice in theory, but it doesn't work in practice when the clerks are responsible for everything. So I believe that it is quite crucial to define what we are talking about, the definitions and then to find out what kind of authorities should participate in this process and the question is should we really think about the regulation or maybe some more lenient cases like self-regulation of some best practice to start with that, not to kill this business from the very beginning. Thank you very much.

>> MODERATOR: Thank you very much. Are there any other

questions? If there is, I will take another. Yes, please, the gentleman there.

>> AUDIENCE: You will likely have to take the last question now because the interpreting services will be finished soon.

>> AUDIENCE: I'm Mahmoud Duli, I am a member of telecommunications authority of my country, Senegal. A little bit like my predecessor, a couple of days ago while I was at the Forum, we were talking about the quality of service of mobile telecommunications operators. They were talking about metrics, all of the indicators one could have to monitor a network. The idea was to come to get better indicators in order to provide necessary services for users.

We are talking about regulations and so forth. So the question that I'm asking myself and I would like to ask you is today when we are dealing with RTSE and telephone and over IP and so forth classical networks, we have classical operators but what is not really working given the influx of information we have now, multimedia that are drawn in by very important data providers, we don't really know who is responsible for what. I'm not exactly how one can really deal with data when you know that the server might be in Los Angeles or Ghana or somewhere else.

What if I call my cousin up and things don't work? Who do I have to deal with if I have a Senegalese operator? Who is responsible for the quality of my multimedia influx, my multimedia data? I'm talking about the quality of services but I guess we could add to is that security, safety and other things. How can one look at the various parts of the network and how can the regulators behind all of that get involved?

So the question is who is responsible? One can talk about techniques. We still look at ways we can make money with what we have, but there is also questions of ethical questions, and I think at one point or another we will need to monitor and be able to detect people who are causing damage or causing the problems with the network.

>> MODERATOR: I think that question was for you. Yes, and if you could just briefly, there was a lot. So if you could just briefly say who would be responsible given all of the other things that are taking place.

>> Would you like me to answer as a regulator or as an engineer.

>> MODERATOR: As the regulator.

>> As a regulator, I would say that, of course, I can speak about the European Union, let's say, background as we cooperate in this legal environment, and I would say that, for example, there are many examples of special quality of service measurement strictly delivered to the end user to clarify the real condition of the services delivered by providers.

And, of course, the best solution for the end user to let's say even to in front of the curve for appropriate level of services is to use the last mile measurements. So the KPIs are varied starting from bit stream access, your Internet throughputs, latency and other KPIs, but the most important issue is that would be, it should be organized in natural end user environment. Another alternatively, alternative solution is to use some kind of special devices in the Internet network, I mean, just close to the interconnection points like let's say clicks or some others on the outside of the Internet network and Internet network for B to B level, but it's very difficult to guarantee that it will be let's say quite good evidence in front of operator even in front of the occurred if it's artificial mesh evidence.

When it comes to the end user to stay in line with Net Neutrality regulation and other affiliated regulations in EU zone, you need to organize it as the last mile solution for the end user and, of course, it should be repetitive exercise per 24 hours to deliver some, let's say, continuous evidence for an appropriate service. That's how it works on the European level. Thank you very much.

>> MODERATOR: Thank you very much for that, and we have successfully come to the end of this session. Thank you all for your valuable contributions. I will also like to thank the interpreters for their hard work today for making sure we all understand what was taking place.

(Applause).

>> MODERATOR: Ladies and gentlemen, you have really beared with us until the end. There is still another session that is left that is beginning at 6:00, I know it's been a long day, but please stay tuned for that, and we want to remind you that the final summary will be provided during the concluding session on Wednesday between 4:30 and 6:00 p.m. so you will look forward to those summaries at that point in time so we can get the key take-aways from each of the sessions. Thank you.

(Adjourned at 17:45.)

This text, document, or file is based on live transcription. Communication Access Realtime Translation (CART), captioning, and/or live transcription are provided in order to facilitate communication accessibility and may not be a totally verbatim record of the proceedings. This text, document, or file is not to be distributed or used in any way that may violate copyright law.
