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TWO PANEL DISCUSSIONS

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P.O. Box 3066

Monument, CO 80132

1‑877‑825‑5234

+001‑719‑481‑9835

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>> Excellencies, Ladies and Gentlemen, may I ask you to return to your places, we will begin in just a few minutes. Thank you.

Excellencies, Ladies and Gentlemen, welcome to the second part of this strategic dialogue. Before beginning this session, let's watch a short video on the growth of broadband and affordability as a key driver for development. Thank you. [Music.]

>> Mr. Rafaelle Barberio. Over to you.

>> Rafaelle Barberio: This video is very clear with the numbers it shows us. And broadband is particular engine to ensure development. And broadband is a main tool to connect the world, to connect people, to connect economies, to connect well, to connect religions. And so we have a panel with very distinguished panelists. Let me introduce them. We have on my right Her Excellency, Miss Omobola Johnson, Minister of Communication Technology, Government of Nigeria; Mr. Yung Kim, President and Group Chief Strategy Officer of Korea Telecom Corporation; and you know Madame today which will close our session; and on my left, Mr. Franco Bernabè, Executive Chairman of Telecom Italia, also Chairman of GSM Institution; and Robert Pepper, Vice President, Global Technology Policy System; and last but not least our scribe, Miss Kathryn Brown, Senior Vice President, Corporate Citizenship and International Relations, Verizon.

Sorry, I'm really sorry. I am really sorry. And we have also, I'm sorry, Mr. Amr Badawi, Executive President of the National Telecom Regulatory Authority, Egypt, and academic, well known academic in his country.

I want to give immediately the floor to Her Excellency Omobola Johnson, Minister of Communication of the Government of Nigeria. Please.

>> OMOBOLA JOHNSON: Thank you very much. Good afternoon, everybody. I think that quite a lot has already been said about how broadband can drive development. The analogy that I had was it's a supply and demand issue. And there are basically three ingredients in this. It's access. It's affordability and it's relevance. And we talked about access in the first strategic dialogue where we're looking at how do we increase supply of broadband across countries, across the world. And of course the very short video that you just saw shows you that you can have all the supplies that you want but if it's not affordable, then it's useless. And tragedy of what we saw is actually for a continent like Africa where broadband can really significantly drive development, 14 of the 20 countries that have the most expensive access are in Africa so that's clearly a challenge for policymakers, regulators, in the industry in Africa. The third part of it is relevance and that's really what we talked about earlier on which is really around content, and that's really what drives development. Supply and access is one thing, but to drive development and to really achieve that 1.3 percent increase in GDP for every 10 percent increase in broadband supply, what you need is content that drives that. Let me just give a few examples of what we're seeing in Africa. In Nigeria, I see it as an evolutionary process where we start out with very simple SMS‑based applications that drive development and we move into more complex broadband applications that drive, get better results. So for instance in Nigeria, there's a programme that was initiated by the one of the state governments where when a pregnant woman registers, she gets a mobile phone and she gets credit loaded on the phone, basically what that allows is that for health workers actually then begin to monitor her progress throughout the pregnancy. Very simple voice‑based, SMS text messages if she has any issues she can call the health worker.

Now this has been very helpful the child mortality rate has dropped which is one of the highest in Nigeria and obviously in the world.

What has then happened is the increase in percentage of broadband beyond the SMS services is can be run by the ministry of health where we are using broadband to train 10,000 frontline workers that will basically be connected to women in rural areas that are pregnant, training them on what to look out for, how to handle the very simplest of issues with pregnant women. And this requires broadband. It also looks at things that can catch cancers that can enable you to be very targeted in substance. You are given money through the mobile phone to women who need the money instead of widespread machine gun approach. The other areas of success how broadband can drive development is in agriculture, where prior to 2011 you had a fertilizer subsidy that was not well targeted in that there were a lot of middle men who would buy the fertilizer and the fertilizer wouldn't get to the farmers at the right time, or they wouldn't get the right fertilizer for the kind of soil in which they were farming. Now, again, with very simple SMS mobile money application, we're able to register farmers in Nigeria and we're able to then transfer the fertilizer subsidy directly to the farmer and he goes to get the fertilizer at the right time and with the right fertilizer. But again moving this into broadband, what we are now doing is actually extending agriculture extension services via the Internet where depending upon the kind of soil, you can offer advice to farmers via the mobile phone for broadband. You can begin to send information about market prices. You can send information about the weather. And this is where broadband really moves away, it takes you away from just fertilizer that increases productivity to programmes that not only increase productivity but increase yield and also result in better security for country. And this is really where the content is really what drives the ability of broadband to really support development, particularly in African economies.

And so when the Minister of Columbia talked about no water in the pipe. There is a little water in the pipe. There is a trickle. But I think we in Africa, in African economies, need to begin to develop our local software industries to develop softwares that are relevant for economic realisation and raising capacity, as well.

We have actually started some programmes with government. And this is really just starting off with catalyzing innovation centres where we encourage young Nigerians to come into these innovation centres, bring their ideas, and we work with them to take their ideas from concept all the way to commercialization, whether it's economic commercialization or social commercialization if I can call it that. And coupled with all this is a venture capital fund, because many of these young Nigerians don't have the collateral that is required for them to move from idea to commercialization. So venture capital fund that will take a risk on young Nigerians that are developing software that is relevant, useful and that can drive development.

So, really, the point I think I'm trying to make is we need to address two sides of this. Very importantly the supply side because for many African economies and Nigeria we do have a dearth of infrastructure in the rural areas. Where half the population resides in rural areas, and they're the ones that can benefit from this social development, whether it's farmer, pregnant woman or somebody that is disadvantaged society, a woman, rolling out this infrastructure in rural areas is critical for African economies and we need to figure out how we intervene as a government because the infrastructure providers are not interested in areas that do not return on investments because they are rural areas.

The second thing we need to focus on is applications. How do we get the application that is drive development, as well? For example, the examples I've given in agriculture and health but also in education. There are many examples that I could give in that area. So it is two sides of the equation. Balancing them very, very carefully and ensuring that we do get the results of significant investments in broadband infrastructure. Through.

>> RAFFELE BARBERIO: Thank you very much. Let me ask before you are ministerial, you were involved in a very important software company such as Accenture. What was your strongest experience in the market and your present engagement within the government in doing what you are planning in doing?

>> OMOBOLA JOHNSON: I think that my experience which is very much private, commercially driven, I did a 360‑degree turn when I came to this position. My concern was less about commercial success but more around social and developmental success. And I think that's really the transition that I've had to make where ‑‑ well, commercial success is important, but I think for countries like Nigeria that are developing, we have significant challenges in terms of our social development, education, health. I think I've been able ‑‑ what I'm trying to do now, what I am doing now is bringing that commercial sense into a social ‑‑ into trying to achieve some social objective. So basically I think it's easier for me to come up with policies or discuss with these very commercially oriented network operators and work out how we can incentivize them to go into the rural areas. I think it is also easier for me to look at the education sector where I fully understand the importance of education and begin to think through how we could use technology, which Accenture is very well known for having technology to drive the education of millions of children. Nigeria has the highest number of children that are out of school. And there's no way we can build enough class rooms in the next five years to get all of them into school. So I think my private sector background has used that commercial sense to see how we can bring that commercial sense into some areas which will actually catapult or support Nigeria's development or vision to be a top 20 economy by 2020.

>> RAFFELE BARBERIO: Thank you, Ms. Johnson. I will pass to the following panelist which is Yung Kim of Korea Telecom Corporation. And as President, and group chief strategy partner, you are in telecom, we look at Korea, we look at model in which technology has been interpreted in the best way. And probably you have a very peculiar situation in which the telecom industry is very strongly linked with industry of device, which is a very peculiar situation. So, please, we are here for your point of view and I want to ask you something later. Thank you.

>> YUNG KIM: Thank you, Raffaele for your kind introduction. Everybody knows Korea is a forefront of ICT development. It is currently ranked I think top five ITU/ICT development industries. So the accomplishment of this is quite unique in the 90s that the crisis came, like IMF crisis. And this availability of Internet through broadband made more parents to give a better chance to their children. And from that, the Internet and broadband has helped Korean competitiveness throughout the industry and enabling e‑government, health and education. So the broadband in Korea has played a critical role in overcoming economic crisis.

You know the Korean, the Asian financial crisis in 1997 was really, you know, big impact on Korean society. But the broadband has played a critical role in overcoming those crisis. And increased availability of a broadband has helped and enabled applications, eventually with like education, healthcare and financial services, which really has enriched people's lives. And importantly increased at the competitiveness and productivity of businesses and industries. But the development case in Korea probably cannot be repeated in the same way in other countries in the new era. What I'd like to show is a smartphone is becoming increasingly important. And the number of production has already surpassed PC. And it has resulted in the price reduction. And the price being under $50 apiece in couple of years is now possible. And as you see when the GSM form spread out throughout the world, when the $50 hit that exponential growth, so with the PC in hand in the form of smartphone, and with experience growing out LTE, and we found LTE is really competitive and price‑per‑bite delivered is probably 1/5 of 3G. 3G is more like a voice era trying to deliver data like ISDN. And LTE is a true IP technology, which will enable real broadband like XTSL or FTTH.

With these two combined, I believe the future of a broadband network is really a mobile network based on 4G and beyond. So the people in the developing countries should also enjoy the same kind of benefits the Koreans enjoy and the Korean industries enjoy with the accelerated development of mobile broadband. That's easy to say, but how can we achieve that. Building a mobile broadband infrastructure most effectively and expediently, I would like to introduce a new approach of rolling out mobile broadband network through a public/private partnership.

As you know, the current spectrum licensing model which has created 3 to more operators in a market, this has resulted in uneven coverage arising from the commercial viability and return on investment. So they will not roll out to the countryside. And this created digital divide. This is even in the developed world, not just developing world. This phenomenon is really need to be overcome because three or more mobile licenses is like building three motorways between Geneva and Paris with no feeder road interact.

So under this proposed public/private partnership, government gives a large amount of spectrum for exclusive use of the consortium, PPP, for 4G and the build. The private sector will bring capital and technology to build a wholesale mobile broadband network for universal coverage. This network can deliver hundreds of megabytes. And the current 2 G and 3G operators are to be the retailers and the resellers to encourage market competition. KT believes that this public/private partnership will expedite mobile broadband globally and help reach the information and education divide in many countries. KT is already working with a number of developing countries to launch this scheme and prepared to contribute should there be any invitation for us. Thank you.

>> RAFFAELE BARBERIO: Thank you. How to convince. You said the smartphone could be the new engine. And a good problem is to make the cost of the smartphone will be very low. How to convince the industry like Nokia, Apple and Samsung to make their device so low priced to meet the new demand from new countries, new users and so on?

>> YUNG KIM: I think smartphone prices will come down because I know even the top manufacturer like Samsung, they're working on the low cost models. And I've seen in Mobile World Congress in February from ZTE, $70 mobile smartphone, I heard that $55 one is going to be produced by Huawei just like PC prices of $10,000 in the 80s, we can invest $10,000 in like 10 years, I think affordability is the thing that drives the industry. It's not just the technology. The price going down will ‑‑ all of continent has a smartphone. They demand accessibility. They demand access. The abundance of devices will create application industry, other industries to make use of it. So I believe this is just to come. It's just not something that is far away. I believe within couple of years you will see it.

>> RAFFAELE BARBERIO: Now very much. Let me pass to Amr Badawi, Executive President of the Nation Telecom Regulatory in Egypt, and let me ask: You represent another important great country in Africa, what is the impact of broadband in a country like Egypt? Thank you.

>> AMR BADAWI: Thank you, Raffaele. Good afternoon, Ladies and Gentlemen. I think that being digitally connected will absolutely improve people's lives on the job, at home, socially and will also join with people with disabilities. Broadband empowers people with disabilities and removes barriers that keep them from participating in everyday activities, and Egypt has been taking a very strong direction in terms of supporting that.

And, in fact, if we want to see how the broadband has helped improve people's lives in Egypt, we've witnessed a huge growing use of mobile phones and Internet among youths. The use of broadband among Egyptian youths has been obvious in the past couple years as broad played a vital role in promoting the Egyptian revolution. It was the main means of communications between youths in those tough days.

In this respect, the NTRA has started working on the broadband plan which was called EMIS, the local name for Egypt as we know it in Egypt. EMIS national broadband plan whose framework was announced in November 2011, and we're currently working on a detailed implementation plan for it, proposing several different directives to meet Egypt's broadband service needs. Thus Egyptian government has identified the priority sectors including the education sector, the health sector, government administration/public services, small and medium enterprises, culture and tourism. This provides the demand side. And as explained by my other colleagues, this is crucial for the success of the use of broadband. Adoption and integration of ICTs in these sectors requires sufficient broadband infrastructure. Appropriate applications as well as an enabling environment for its successful implementation. That's what we're working on right now in developing our broadband plan to make sure that the broadband plan is based on solid basis. It will be successful and it will reach its goals.

And one of the most important sectors we're looking at is the education sector. And over the past decade, Ministry Of Communications and Information Technology and NTRA have initiated many projects to ensure the integration of ICT with education. These projects included curriculum development, teacher training, development of management systems and education institutions. Support for the concept of learning and continuous learning and enabling to acquire knowledge and skills necessary to create knowledge society. Actually, Egypt is working on a very important project that would transform the way education is done in Egypt. It's based on modern keypad cloud computing curriculum development because we absolutely believe that modern education will not take place without the availability of broadband to all students. This is how we're going to transform the education in Egypt and make sure that our next generation have all the tools to integrate with the world and to be successful in providing the best labour, the best quality of services to their country.

And regarding e‑health, Egypt has facilitated the integration of ICT in health services and the provision of medical education to remote and underserved areas of Egypt. And although this initiative is still at early beginning.

In addition to that, it is not only the government that has been using and working on broadband. Also the citizens themselves have come up with applications that serve their needs. Cairo traffic is known to be very dense, extremely difficult to handle, and Egyptian citizens have come up with developed mobile applications that help them share information on dense areas in Cairo and Alexandria. This application is in huge demand and of use to citizens and use in their lives. Also social information about Cairo has been developed.

I heard from my colleague of Korea Telecom very interesting idea that we've been working on in Egypt, which is regarding spectrum sharing, the idea of spectrum sharing. And as a regulator, I really fully support his view of the fact that the efficient use of bandwidth, of spectrum is essential to get broadband at competitive cost to our citizens. Also the idea of having this public/private partnership would be key to the success of introducing broadband to all our citizens.

It's important that we do the sharing. We, at the end NTRA have some R & D activities that are working on how we can do spectrum sharing, what would be the best technology. And hearing from Korea Telecom, I think we could do a very, very good cooperation project in terms of that.

And we are looking forward to come up with the necessary regulation that would allow this to happen.

As a regulator, we look ‑‑ we are trying to look at what's going to happen in the future. We try to make sure that our regulation fits that and will help promote broadband and help provide broadband as quickly as possible to our citizens. And I would like to invite, actually, anyone and every entity that has any research to cooperate with us. I think this idea is vital to introduce broadband especially in developing countries.

>> RAFFAELE BARBERIO: Thank you very much. What are in your opinion the main change we need in terms of policy and regulation to facilitate the growing of broadband to create advanced services, to create new content and to getting better the lives of people?

>> AMR BADAWI: I think one of them is what I just talked about, to make sure that we come up with smart regulation for spectrum usage. Spectrum is the fuel for broadband. And that's a key area where we need to look at regulation and make sure that it will follow and will be able to accommodate such new ideas.

Another one is looking at problems like lack of content, high illiteracy rate and making sure we work on stopping that. And the affordability of broadband.

One idea is when you come up with a spectrum allocation techniques, it's very important to ask yourself a question. Especially as we are part of the government, is the goal to increase or to maximize the return for allocating spectrum or is the goal to provide development in the country while making sure that the government or the state gets its fair share of the usage of the spectrum. So this is a key question that every country has to answer.

Now, if the answer is to come up with ‑‑ is not to collect all the money up front, probably this is a very good way to help or encourage the industry to more or less invest in the capital equipment and to provide access all over the country and then do a scheme of revenue share to make sure that the state gets its fair share of the spectrum.

This is one thing. Of course looking at the licensing the different applications. We need to make sure that we have the necessary regulations that would accommodate that.

>> RAFFAELE BARBERIO: Thank you very much. On my left I have Franco Bernabè. I am well advantaged because I know you very well, of course. And Franco is Executive Chairman of Telecom Italia and currently Chairman of GSMA, the association of mobile operators in the world. So you have your company fixed line and mobile lines, but your point of view as Chairman of GSMA is also very, very important.

And last but not least, you wrote very recently an important book on the very delicate aspect regarding how the system of broadband managed the personal data which is in some ways the mother of all worlds. And there is no consciousness about this, not in the right measure probably.

So we are looking for your point of view. Thank you.

>> FRANCO BERNABÈ: Thank you very much, Raffaele. I think it is a very interesting round table on very critical issues. And I want to thank you for mentioning what I wrote because it is really my big preoccupation because when you ask people what broadband, what Internet is all about, I think you get enthusiastic answers: There is obviously no limit to what Internet and broadband can do. We heard very interesting comments from the Nigerian experience and from the Egyptian experience. The only limit to what you can do with broadband comes from your imagination, your entrepreneurship and your technological skills. But there is a dark side of this. And the dark side is that you collect, through Internet, an enormous amount of very critical personal data. And you perform a number of very critical functions that people expect to be performed like in the brick and mortars world. This in the way in which things were performed in the old economy. People expect the same kind of reliability, the same kind of security that you have in the old world. And this is something that really has poses some question marks.

What you see is that the number of threads that are coming from the infrastructure are increasing. And I'm speaking here my capacity as chief executive of a large telecommunication company. We see cyber threats, cyber security being put at risk. We see a growing amount of cyber attacks. Not only denial of service, DNS changes, spoofing, phishing. You name it. This poses a number of very important questions because people exposed to the Internet, very critical personal data and very critical function. So they pretend that everything happens in a very secure way.

Now, I think that on the one hand side we have a problem with the architecture because the architecture was conceived in a completely different world. It was conceived in a world where there were a few people, few universities connected. People that trusted each other, people that did not have any problem in identifying each other because they knew who was linked to the network. And therefore really didn't care about authentication, didn't care really about security because security was not a matter. But when billions of people use Internet, they want a secure infrastructure. Like you have secure railways. Like you have secure air transportation.

Now, the very strange thing is that while you have an enormous amount of regulation that guaranteed that air transport is secure, you have an enormous amount of regulations that take the back ‑‑ that make secure rail traffic, you don't have the same regulation in the Internet world. And although we want the Internet world to be open, to be transparent, to be a Forum for complete openness, I think that there is not that much recognition of the need that this environment be secure. And there is not even the recognition of whose responsibility is it to keep it secure.

I was reading this morning on the Wall Street Journal about the case that was brought by the Federal Trade Commission against Wynham, a hotel company that owns Ramada Inn and a number of famous hotels. And it was a case where hackers have stolen millions of records of customers of this company. And the Federal Trade Commission sued this company for data breach because the company, in the Federal Trade Commission did not take all the measures to protect the data that this company owned of their customers.

Now, if I look at their own experience, we have hundreds of people working seven days a week, 24 hours a day to protect security. And we see the threats that are always increasing. We build the infrastructure. We study new ways of protecting. But there is always something new that comes and poses a new threat.

So, I think that really this is something that needs to be addressed. Of course now there are more secure architectures. I think that what we, what all the telecommunications companies are campaigning for is cloud architectures that bring the intelligence from the edge to the centre again. But, again, innovation comes at the edge. Innovation comes that you find intelligence at the edge. While security comes from more protected, more closed, more centralized environments.

Now, I think that this is something that really needs to be addressed. Because when we have critical areas that are being impacted by the Internet, health care and a number of other very, very critical areas where personal data are of a very critical nature, what you need to have is something that you really can rely upon.

I think that we really need to do much more. And I welcome the work that has been done Hamadun Touré by promoting more security and more privacy within an international framework.

Now, if you look at the law enforcement I think that in the Internet world poses new challenges to law enforcement because you need to have double legislation on certain areas. You have to have a crime recognized by both legislation. While this does not happen in many cases. So you have a problem in addressing these issues. So I think that we need to discuss these things in a very open way. I don't think that these are things that, I mean, need to be discussed in secrecy or need not to be discussed because of political reasons. I think that these are issues that need to be addressed and need to be addressed for the security of everyone and for the well‑being of the future Internet. I think that Internet has done enormous things for the world. I think that we have all benefited enormously from Internet. And we need Internet to be moving forward addressing new issues, addressing new areas and opening new areas of incompetence novation. But it has to be in a very safe and protected environment.

>> RAFFAELE BARBERIO: Yes. Security of the broadband is the response to different kind of attack from industrial reason to terrorism, for example. But I understand that you underline the fact that the real danger is the fact that also may be motivated to gather billions of data, personal data that could create a commercial development, also control, a real control on population. If this is the case, what we can do really from now?

>> FRANCO BERNABÈ: Well, I think that what we see is that United States, which is of course at the forefront of thinking and policy making in this area, has updated constantly over time the cyber security policy started in 2003 if I remember correctly and then it came increasingly to address a number of issues to the most recent decision that was taken in a presidential order very recently that created the fourth armed force or something like this. That the cyber warfare area that is one of the major concerns from a security point of view for the United States. And of course for the rest of the world. We have a number of reasons are at the origin of these attacks. We have, of course, real warfare acts that are brought through the Internet. And given the fact that we see a constant expansion of the machine‑to‑machine infrastructure and the communication among things, this exposes also very critical areas. The power grid, not only the telecommunications infrastructure but the power grid, power generation, gas distribution and so on and so forth to a real warfare attack. But we have also criminal organizations that are working on this. And we need, really, to be very, very careful in the response. And the response has to be coordinated. I think we need a response that is not done by every individual country. We need Cybercrime and cyber aggression is something that has an international dimension, has a global scope, has a global reach as a global reach as the Internet. So we need a concerted action. We need a concerted action amongst all countries that think and that believe that the Internet has to be a secure area where everybody can work safely and peacefully. That I think is something very important that we need to be very careful about.

>> RAFFAELE BARBERIO: Thank you very much, Franco.

Let me introduce the following speaker, panelist which is Robert Pepper, Vice President, Global Technology Policy at Cisco. And let me define him as the driver of Cisco for global agenda for advanced technology policy and broadband. He works very close around the world with a lot of governments deploying the local national digital agenda. This is a very peculiar point of view.

Please, Robert.

>> ROBERT PEPPER: Thank you very much. And in that role, working with governments, I work very closely, of course, with Dr. Touré and the UN broadband commission. And we've heard this afternoon on the two panels, I want to actually come back and talk about some of the points, a real consensus that broadband is a very positive contributor to economic growth and social well‑being. Notwithstanding some of the issues that Franco has raised. And I'm going to come back to some of those.

But one of the things that Dr. Touré did was lead the creation of the UN broadband commission. And what I find really interesting also from this morning's conversation at the opening of the WSIS are the references to the Millennium Development Goals. One of the things that we've done in the broadband commission is we very explicitly linked broadband and broadband development to each of the eight MDGs. And as we come up to the 2015 target date and then what's beyond the MDGs going forward for the global Development Agenda, I think we have to be even more explicit to tie what's going to be beyond the MDGs back to communications and broadband and connectivity. Earlier on the first panel there was a discussion about whether or not broadband is a right or not. I mean we can spend a lot of time debating that. In my mind, when I look at development, historically and traditionally there were three essential infrastructures. There was the infrastructure for development. Power, electricity, transportation, water and I would add broadband and really not just broadband but connectivity ‑‑ not just communications but connectivity and broadband as the fourth essential infrastructure. I don't think there's any question to that.

For those of you who are not familiar with the eight MDGs, the first one is eradicating extreme poverty. Clearly we know from the experience we’ve had globally, the World Bank studies, the studies we did with GSMA on the use of mobile data that increasing broadband and broadband adoption increasing GDP.

The study we did with GSMS is not just having it out there but is using it. Doubling the amount of mobile data actually can add another half percent to a country's GDP. These are really powerful indicators. And these are not just correlational. We're now beginning to actually get causal data linking broadband and the consumption on the demand side of broadband and Internet to economic growth.

Linking broadband, the other MGDs, linked to achieving primary education and gender equality in empowering women, by allowing women to work at home and also reducing child mortality and improving women's healthcare as Minister Johnson talked about in Nigeria.

Broadband also is being used in connectivity to address AIDS, malaria and other diseases. And one of the projects and programmes coming out ‑‑ that was generated from the UN Broadband Commission is to link healthcare workers across Africa with smart phones that will save I think it's something like 400,000 lives a year from early detection of malaria. And then of course there's insuring environmental sustainability through using broadband to reduce transportation needs, to increase smart generation of electricity. And, by the way, although we're talking about connectivity to the electric grid, it's not the open Internet. Completely different security issues. And, in fact, the electric grids have always ‑‑ not always but for decades have had communication networks. And, in fact, electric grids historically globally have built out the first nationwide fiber networks because they had the fiber to support the electric grid. And now we're talking about using the applications into a smart grid.

And then, finally, it's developing a global partnership for development. Each one of these MDGs can be linked very directly back to broadband, broadband deployment on a supply side and the adoption and use of broadband being driven on the demand side. In fact, we did a study recently which was just published in the world economic Forum, global information technology report, in which we analyzed many of the national broadband strategies and broadband plans that countries have rolled out. And now we're working with the ITU on analyzing the impact of these national broadband plans.

And what we concluded is that it's really a false choice to talk about either supply or demand. And I think this was the agreement from the earlier session. That you need both. It's you not either/or. It's both.

I tended to agree with minister Milano that supply is not as much of an issue as demand. But we are not yet there on the supply side. We still need wireless and wireless is going to be the primary way most people on the planet are going to get their broadband. We heard that from the Ericson study statistic that was mentioned in the first session, first panel. It's going to be. And then we also heard that the analogy that 3G is really like ISDN. But 4G that is really IP and native IP, Internet Protocol, will be the real wireless broadband. And the question is how do we replicate the mobile miracle of having 6‑1/2 billion people have mobile phones so they can talk to each other? How do we replicate that for broadband?

So I would tend to agree with a lot of what I've heard. But there was something ‑‑ there were two different views between the first panel and the second panel that's giving me a little difficulty.

On the first panel we heard that the impact and the importance of competition. Curt, former regulator talked about the importance of interplatform competition. We heard about the importance of competition driving innovation and investment because if you don't do it, your competitor is going to do it.

But then we heard, no, what we really need to do is build a monopoly wireless broadband network. And we'll just have a bunch of resellers.

I can't square these two different positions. I tend to agree with the first one. I actually think that a well‑intentioned effort to lower the cost of deployment for 4G, that should be a goal. But I don't see the way we achieve it by having a common wireless network that we're only going to have competition in resale. That's not going to be real competition. And we're not going to have the real innovation.

The point on the earlier panel we heard is because when competitors fear each other, they invest more and they innovate. If we only have a single monopoly wireless broadband network and we just have retail/resale, who's going to innovate? Where's the threat of competition driving innovation? I think there's an alternative to reduce the cost and that is to have shared passive infrastructure. 80 percent even in the wireless mobile, 80 percent of the deployment cost is in the nonradio piece. It's the towers. It's the back haul. It's the security. It's the backup energy.

So I think that we can significantly reduce the costs and time of deployment while maintaining the benefits of competition for the consumer and innovation and having the competition on the active radio elements so we can get the best of both worlds. So I actually think this has been, and for me, a really interesting conversation because the first panel had this real emphasis on competition and the benefits of the supply side and demand side, which I completely agree with. But then we heard this, you know, made me a little nervous.

One last point on the demand side. In our study looking at broadband plans, we actually identified five elements of policy on the supply side and five on the demand side. And on the demand side, one of the key elements we saw in terms of making broadband more affordable was mentioned on the earlier session. And this morning in the WSIS opening session by John Davies from Intel. And that is lowering the cost of the device. And then there was the question that you asked. Can we bring this smartphone handset cost down? That is actually extremely important.

Another element on the demand side is government leadership on the application side. We heard some of this already on the previous panel and this panel. Skills development is extremely important. People need the skills. And this also goes to part of the trust issue. A lot of what we see on the cyber security issues are that people don't know what they need to that they can do to protect themselves. People, it's the equivalent of using your door open and not using locks on them. A lot of the skills and skills development and the education around skills can really help on the securities issue. And, in fact, this is some of the things that the ITU, especially through BDT and some of the best the practices in the GSR have done in terms of good cyber hygiene.

Fourth, there's a lot ‑‑ we talked about content, but one of the major issues on content that's important on the demand side is local content and local language. We don't have enough local content and local language. And that goes to the point of relevance. We heard about what is the relevance of the Internet? Without relevance, people are not going to adopt it.

And then, finally, Franco, to your point, there needs to be consumer protection and consumer empowerment. This goes to the transparency, trust education that goes into that and some of the other issues.

So, I think that this has been really interesting, really interesting conversation. And what I like about it is that not everybody agrees on everything.

[Laughter]

>> RAFFAELE BARBERIO: Thank you very much, Robert. Now, Hamadoun. We spoke quoting a lot of different arguments, technology, competition, regulation. But we had a very main actor on the stage which were the people. The people. You and to find the solution for people needs the head and the heart. So, please, Hamadoun Touré, Secretary General of ITU.

>> DR. HAMADOUN TOURÉ: Thank you very much. I think it was a very good idea to bring you on board to moderate this session for us and I very much appreciate the work you are doing. You are very provocative. And I've known you for a long many years now, and you remain the same. Really, thank you very much for your contribution here.

Let me say also that the industry we're talking about has just started. We are just at the beginning. And I could see so many applications coming. One of the applications I would like to discover here today is what Mr. Kim, Yung Kim, Mr. Amr Badawi and Robert Pepper, what is it they need to look at my notes while we are sitting very far from each other. Because they said exactly what I wanted to say.

So, thank you very much. Let me try to rephrase some of the things that I wanted to say here.

Again, we are putting consumer in the centre of everything here. This session is about development and broadband. Broadband has been at the centre of every key issue of the day for the past few years. Starting from crisis back in 2009. What has food crisis have to do with ICT? I mean, the food crisis was not due to the lack of food in the world. It's a distribution chain. And ICT could play a big role in there. And it did play. The financial crisis, financial crisis can take good example on the ICT sector. It is a sector that was totally, the crisis was due to total lack of regulation. We have some regulation in the sector, but like the regulation, and we hope to keep it that way, live touch regulation that is not inventive, giving enough opportunity for private sector to evolve.

We are talking about climate change. Of course, we all know that observation of the climate and many of the issues that are solving the climate change issues are due in thanks to the ICT. And we have been suggesting those.

We are now talking about sustainable development. Sustainable development will not go there, be there about that. Of course I'm talking to the converted here. You are here because this is your bread and butter. This is your life. And you all believe in it. And we are here regardless of all of the issues of the puzzle together, the industry of manufacturing industry and software industry, the operators, we also have the regulators, the policymakers, civil society, consumers groups. They're all here in academia. That's the last piece of the puzzle, actually lacking in IGU in 2010, we added that new element of academia feeding back for research and development.

Now, we are tackling this issue in trying to solve the global problems. And the session earlier we were trying to also look at it, whether it is a fundamental right, human right or this is a tool, actually. It is not an end in itself, a mean to achieve the tools that ‑‑ it's a tool to achieve the means that we are looking at. The ends are freedom, development, enrichment. People talk about poverty alleviation. I prefer to talk about wealth creation. All of those through ICT we can get them and it's just a tool. So let's not try to put it in a frame as a fundamental right or fundamental. No, it's a need. And it's got to be there. And it's going to continue to provide that and will evolve over time.

And when we see the danger. We are talking about the security side of it because what is development? Development is availability of broadband, affordable broadband and secure broadband. And when we talk about the security side of it, we should keep in mind while you are talking about security, it means we want to keep it free. Develop freedom. We are protecting it. So should not oppose security and freedom of it because that is the end of it. We should not ‑‑ the dangers of the cyber security are there. We recognize it. But they should not overshadow the goodies that come out of the ICT, as well. We have to recognize that. The good is there is many good things that come out of it and we need to ‑‑ that's why we're trying to defend it.

Now, we know that some governments may use it for some other purposes. But will those governments not do what they want to do if we were not talking about cyber security? They would certainly do it. They would find other means to do it.

So what I'm trying to say here that we should all agree that this thing is very important for all of us. Let's defend it together. Only together we can find those solutions. ICT has been in the centre of every developmental issue of the day and will continue to do so. And I would like to simply thank all of you for coming together in this Forum, sharing your ideas.

We're exactly using the very tool that we are promoting by communicating. I mean, coming together gives us an opportunity to really share best practices, lessons learned and even bad experiences so that we don't make a mistake that have been made already for lack of information. After all, we are Information Society. Not making or reinventing something that was invented already for lack of information. We're in the Information Society.

Now, our ultimate goal is knowledge society. That's a society where everybody has access to information and use the information in any way regardless of the person's literate or not, regardless of the language and other culture. That everyone can create information. Any citizen of this planet is a source of information. And what a wonderful world if we all can come together and contribute to it.

And last but not least share information. Information, after all, is the only thing we need to share it, it multiples. Everyone will add some value to it. And therefore we have a powerful tool in our hands. Let's make good use of it. And only together. We are all complimentary. There are so many players. No one single entity can do it all. So let's work together, continue to try and compliment one another and make the pie bigger and share it. That's how I see it. And after all, we are here to defend the humankind. Thank you.

>> RAFFAELE BARBERIO: Thank you very much. Let me make a question to you. As you said Internet is extraordinary engine able to create development and to create value for societies. And the general expectation, I suppose, is that the benefit of broadband must go back to all the countries instead that go just to few countries. How is important this balance?

>> HAMADOUN TOURÈ: Well, it should go to everyone because our goal is what? First, I just give two points that are very important. And some of the speakers mentioned it. That's why I didn't elaborate on them.

First, health and education. I think education is at the basis of development of every nation. Healthcare is the basis of everyone. A citizen that is well educated can take care of its family's health, would have limited number of children so that it would be able to feed them, educate them. It will be more conscious about gender issues. I mean, the sky is the limit for all the potentials that we give when you have education accessible to all. And here we have an opportunity to have every citizen of this planet share it. We have to say that only one third of population that is accessing Internet so far. Two‑thirds are coming. If those two‑thirds come, traffic will not just be limited by three. So we need to find some very good business models so that there will be enough investment in the infrastructure that will carry that content. Content and infrastructure are complimentary. That is why when I was creating the programme commission, I went to UNESCO. I said let's do this together because my constituency is mainly dealing with infrastructure. Your constituency was dealing with medication, content in education, health, science and culture. I did similar thing before the WHO, the world health organisation, creating the information and accountability for women and children's health. They are dealing with the content. We're dealing with the infrastructure. We're complimentary.

So that we as you and we work as one. And that has been proven to be a very successful thing. And we very much appreciate the contribution that each and every commissioner is doing in this field, bringing their experience from different fields, from an academia, industry and the government, as well.

>> RAFFAELE BARBERIO: Thank you very much, Hamadoun. Now we have the usual room for the question from the audience. I invite you to pass the microphone to introduce yourself and possibly to indicate which is the panelist you want to address your question. We have more or less about eight, nine minutes. So invite you to make very short questions. Please. No questions? Okay.

We have just time to give you the microphone. And, Kathryn Brown from Verizon is our scribe, so your commitment is to make the right recap of all these topics and you will have the commitment to bridge for the session, tomorrow's session.

>> KATHRYN BROWN: Thank you, Raffaele.

So I thought that was quite an exhaustive and slightly exhausting array of issues that were just raised in this last hour. But what really struck me as I listened to the conversation was the maturing of the conversation, the fact that over time, and it's been many years that we have convened here, we have actually moved from just that plain sense of wonder about this new technology to a systems approach. How does this work? And how can it work to solve some of the basic issues that we all address and have to address in our societies? I was very struck by Minister Johnson's theme that she discussed. And I think they can serve as a framework for what I hope will be a quick synopsis of what I heard.

She talked about issues of relevance. She talked about evolution of solutions and infrastructure. And she talked about risk. And it seemed to me that from a maturing experience that we all are having around this being called the Internet, whose full potential I think we do not yet know, that these issues of relevance, evolution and risk are the right ones to have on the table right now. So relevance to whom? And we understand that the relevance of the communication technologies that are now integrated in most sectors of the economy are highly relevant to production, to growth, to productivity for human beings to human Welfare. We know that if the access to this thing called the Internet is not available, we heard this morning that it's a big X. We don't have that kind of growth. But we also know that what is available, what is produced, what is created on the Internet is integrally involved in this ecosystem that is growing. And so what we heard was the need for regional content, regional relevance for solving real problems in folks on the ground.

Robert Pepper, I think, did a good job of bringing us back the Millennium goals and the actual consensus view of the kinds of things that we need to solve for right now. And that we think these technologies might well do.

On the evolution side, I find very fascinating that we've moved over the last years from a discussion of fixed wire line technologies to broadband technologies in almost lightning speed. I think sometimes we don't even realise how fast this has gone. And we've moved from a 2G world to a 3G world to now a 4G world with the help, as I tell Dr. Touré every time I see him with understanding what spectrum out assignment and allocation, why it's so important, why the 700 megahertz assignment is so important for what is now going to be the evolution of wireless broadband to the LTE 4G world.

Mr. Kim pointed out to us us very clearly that we go to an IP world. This changes everything. This is not just a pipe over which water flows through. This is the technology itself that changes how bits information are moved and how it becomes enormously available everywhere in the world. Spectrum is everywhere.

The evolution of these networks at this point in time create enormous opportunities for new relevance and for new applications everywhere.

In the United States, I am one of the companies that is almost completing a nationwide deployment of LTE technology. Our friends at AT&T are right behind us. And two more companies are behind them. And what we are seeing in your hand in those smart phones is 10, 15 and in some places, I don't even want to tell you megabits in your hand mobile broadband. What does that do for the delivery of healthcare, not just the education of the pregnant woman but also the actual delivery of the healthcare where she is. It changes everything.

So there's a huge evolution here happening in the infrastructure, and there's a huge evolution happening in our human consciousness about what this technology can do. And, thus, the risks.

I think Mr.  Bernabè put on the table the risks now of the systemic change and what we're staring at and the fact that with every opportunity with these benefits there are risks. There are security risks. There are privacy risks. There are risks around how we use the technology to hurt each other instead of help each other. And that has to be part of the conversation. And I applaud you for saying it has to be out of the open, it has to be clear and we have to stare at it.

The other risk I think I guess I've listened to for about 30 years, the challenge of each of us in different parts of the industry challenging each other on what is the right business case for all of this to happen. Is it a consortium? Is it competitive infrastructure? Is it resale? The risk is we'll slow each other down. The opportunity is that we're going to find the right way for this technology to be deployed, these applications to happen. And that is because throughout this day we have heard that it is the customer who is in charge. The customer is demanding that it faster, that it come better, we heard on the panel that the community is demanding change in a culture that was formerly closed down. We are hearing it is women who are saying we are the folks who are raising our children and trying to find ways for new economy and we want this technology. I have sat with women who say give me that phone in my hand and I want it to be attached to the Internet. It's the farmers who are saying that I can produce more if I have these technologies.

So this amazing risk we have that we might slow down, I'm actually more encouraged now than ever that the people have got it. They understand it because 6 million people now have a cell phone in their hand and understand what connectivity does to them. I think, Dr. Touré, there's no stopping us now.

>> RAFFAELE BARBERIO: Thank you very much, Kathryn.

Hamadoun, we finished our job this evening, and tomorrow we will have a very important day with a lot of challenging topics. Would you like to say something about tomorrow, for example?

>> DR. HAMADOUN TOURÉ: Well, we are starting the policy Forum tomorrow, which is really great opportunity for us to again brainstorm, exchange views, build bridges. The policy Forum, like some other conferences, is not a decision making conference. It is not a conference where we can invoke resolutions. It is coming up with opinions. Just to brainstorm the wealth of ideas that will come out of it is what's helping and has made it very successful so far. And I count on each and every one of you to come tomorrow. Brainstorm on the ideas. Have clashes of brains, not clashes of people. From this comes life. And magnetic life coming out of the discussions here. Be passionate. I know you are all passionate about what you're doing. But let's come here and not be personal. And I really look forward to a very good session. By seeing the level of participation, I am first, of course, very much encouraged because never before have we had so many ministers, so many CEOs, so many civil society members, 1700 participants. And that's really something that I very much appreciate. And I hope that we will not be able to come out of here in agreement. And the opinions that come up with are opinions that we already agree upon. There is already six draft opinions that were already agreed during the preparatory phase. I am very pleased that they were there. But discussion does not stop there. We will come here and we will continue. And, in fact, even discussion will not stop at the end of the conference. It is just one step. One additional piece of the puzzle that we are all trying to solve together. And we are just making the world a wonderful place.

>> RAFFAELE BARBERIO: Thank you very much, Hamadoun Touré, I want to thank, this is the final remarks for the second session of the afternoon. I want to thank Her Excelleny Mrs. Omobola Johnson, Communication Technology Government of Nigeria; Kathryn Brown, Senior Vice President, Corporate Citizenship and International Relations, Verizon; and Dr. Amr Badawi, Executive President, National Telecom Regulatory Authority, Egypt; Yung Kim, President and Group Chief Strategy officer of Korea Telecom; Franco Bernabè, Executive Chairman and CEO of Telecom Italia; and Robert Pepper, Vice President, Vice President of Global Technology Policy, Cisco. And very special thanks to all of you that have been so patient until now. Thank you very much.

>> DR. HAMADOUN TOURÉ: But I would like you to give a special applause to Raffaele Barberio. Thank you very much.

[Applause.]

(end of session).

>> Ladies and Gentlemen, just a couple of quick announcements as we conclude the strategic dialogue. As the Secretary General mentioned, tomorrow morning we will begin the WTPF at 9:30. The opening ceremony. We will only be using the room above, so not for those of you that are down here on the bottom, we will not be in this room tomorrow, only in the room above, which is Room 1. And we will start at 9:30. We also have a very brief heads of delegation meeting just now in the room just behind us, room 3.

And, finally, you are all invited to a reception that begins at 6:15 in the Mont Brillion cafeteria where you picked up your badges, so you go there at 6:15. Thank you very much.

(End of session.)

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