>> Okay. Good morning, everyone. Can you hear me? For your information, in session is available with interpretation. You can use all your channels. I can't remember but you can use the interpretation through your headset.

Okay. Good morning, everyone this is our special sessions on
accessibility. I welcome you to this session. As you may recognize, over a billion of people live with some form of disability. Because of this, we see the fundamental input of our ICT accessibility. I'm very proud to say that ITU is the global leader in this arena.

We have played a leading role in raising of the ICT accessibility. One of ICT's recent initiatives in this domain was the publication of a policy statement on standardization and accessibility in partnership with IEC and ISO.

We are fortunate to have Andrea Saks today. Andrea has been a lifelong advocate for ICT accessibility. I believe there's no better person showed insight into ICT's work in this regard.

I should also highlight that ITU was first United Nations organization to provide live captioning and sign language interpretation. We have built on this experience by raising guidelines on how to host accessible meetings. ITU is also the global leader in mainstreaming the consideration of accessibility in technical standardization work. In partnership with ICT-ISO, we published a guide for standards. It ensures that their world sports the production of accessible ICTs. The guide as to two other pioneering accessibility documents. The policy for older persons and persons with disabilities. And the telecommunications accessibility checklist.

I was pleased to report that ITU recently completed some key accessibility standards. ITU, after 791 is a standard providing accessibility terminology to be applied universally across the ICT industry. We boast another recent achievement in the delivery of ITU H .702. A standard that provides accessibility profiles for IPTV systems.

We have also released a technical paper, detailing user cases for assisting people with disabilities in using mobile applications. Our technical expert in IPTV, Masahita Kawamori. And I'm pleased to welcome Mr. Akihiro, Nakatani, who will show the accessibility, based on H .702.

We pretty much assure this subject, accessibility is very important agenda and our programs as United Nations special agency.

This is one element to differentiate our standard with other standard organizations. So this session is very special case, but it's -- I'm very delighted with such experts to share our achievements. I hope this session will share with us our views -- our activities and your active participation in this subject area.

Having said that, I wish that you enjoy all of this session, as well as today is the plenary session, after this session,
the plenary will continue.

Thank you very much.

(Appplause).

>> ANDREA SAKS: Good morning, everyone. I'm Andrea Saks, and thank you very much for that very nice introduction, Chaseb Lee. I want to see if this works. I'm going to push this button. Hopefully we get -- okay, guys? So we are waiting for my slides. Oh, there we go! Okay.

Now, we do see an accessibility problem right now, which we -- ah. There we go. We have a single line of captioning. So you can see the slides. So sometimes I think the captioning is more important.

So let me continue.

It's not working! I can't change the slide. So does it work?

Well, we have -- here comes -- oh, you got it. Okay wax do I do here? Can you -- we have to go back. I have to go back. Oh, here we go.

>> Yeah.

>> ANDREA SAKS: Okay. Where are we? I'm in the wrong place. Sorry about this. Okay. Now we've got it. So I go this way. Fair enough. I have accessibility problems often.

I wanted to give you all a little history first, because in not so ancient history, deaf people couldn't use the phone, blind people couldn't navigate the web there. Wasn't the web at all, and physical disabilities could not access very much at all without the technology that we have been able to produce in the last 25 years because that's when I started at ITU.

And it started with Deaf telecommunications of which I'm very personally connected. If you notice, there's a last name similarity, Andrew Saks, and Andrea Saks, that's my father who was deaf and his two colleagues, James Master broke through the problem of Deaf people, persons who were Deaf being able to use the phone. It's not a very wonderful picture. You can see a huge clunker of a teleprinter which was a surplus old teleprinters. It was not the new one. There's a telephone. You can barely see there's an old-fashioned telephone on top of what is a modem them had to type on the telephone and read on a big huge piece of paper. It's a bit more modern. I was privileged to go to the kingdom and because my brother was British.

She went to the UK, but her friends found out that she was able to use the phone and badgered us to go. So we went. So we worked with the British community. We worked with Offcom and managed to get the testing done which they gave us for free,
which they don't do that now and five phone types because that's what we called them or TTY as the code -- as the Deaf nicknamed them were started in December of 1972. There were some problems because we were not allowed to call transatlantic. There was a docket before the FCC we made the first successful transAtlantic call from London from the US trade center building to Washington, D.C., to the Department of Health, education and welfare. And that began the breakdown of that particular barrier. And the reason that people can fax today is because the Deaf broke that docket.

There were some compatibility issues. The teleprinters operated at a different speed, a different baud and therefore we had to two different kinds of machines to be able to talk transatlanticly. There were no standards.

Now, you might recognize me but then again you probably won't. We went to the ITU in 1991, which is what after the -- which is 25 years ago! The gentlemen there is the first State Department man who thought I had invaded. When he understood what I was doing, he let me in.

I was there at the invitation of Dick Brad. And I want to give credit to these two guys because without them, we wouldn't have the standardization that we have in the ITU. Dick Brant created the read out, the very first accessibility resolution that enabled all the different navors of TTY, because each country did their own. Basically the same principle but they were not able to work together back to back. There was no compatibility from Germany, to England or to the United States. We had isolated pockets of accessibility to the phone, but no international calling and that's when we came to the ITU.

Now -- oops. What happened? We lost something! Gunnar Helmstrom, he enabled us to have a couple of important things, like how to get realtime text, also how to have relay services, and I will go into that later, and he was an important Rapporteur after Dick Brant.

Now, the check list is what we want every standard writer to use. It was written by Gunnar Helmstrom. Universal design you are familiar with because now in the UNCRPD, it mentions that we must use universal design. Start in the beginning how you mean to go so there's no expensive retrofit and we can have usability and accessibility from the beginning. So now why promote and create accessible ITTs? It's now a right with the U.N. Convention. You all know this. Because of time, I won't read it out to you and you can have access to the slides as well. But it's Article 9.

And persons with disabilities can live and contribute to the
world and they should have the right to be able to community and without accessibilities, there are problems with emergencies and disasters because as one of my colleagues in Japan said, a wonderful character who is called -- oh, my God. He's gone out of my mind. Maybe Masahito will refresh my memory. He said never mind about disaster relief.

If there's no accessibility because if it's not done in disaster preparedness, all the persons with disabilities are dead. It's quite blunt, but that's what he said to me.

Stephen Hawkins is a wonderful example of understanding that having a disability doesn't mean that you are stupid. They should be able to participate fully in society and they have to do that. Again, I'm not going to go into great detail. You have captioning. You know it's in films. You know it's on your television. Realtime text and total conversation for using over the network at the same time, is voice, video and text. Now, presently we don't use realtime texting because we use a sentence and we push a button to transmit.

The Deaf community would like to see realtime text which is character by character come back, and here is an example of that. It's character by character. It's much easier to read. Especially for people with learning disabilities and dyslexia like myself, because you see, a little bit at a time. And you get the idea. So there you go. That's that.

Now relay services in realtime. Without having the equipment -- and this is, again, more applicable then but it's still applicable now, to people would don't have their SmartPhones on. You need an intermediary, a person would is connected to an organization which gets your call from the text phone or from the other device that you are using, and then makes a voice call to whoever you wish to reach. There are several kinds now. We used to just have text-to-voice, video to the person and they would speak for persons who only Siped. Speech-to-speech for those people who could not speak well, who would have a specially trained relay service operator who would be able to understand specialist speech situations. And total conversation relay services, really are vital, where we have all three aspects, text, voice and video.

Now, this -- whoops. Here we go again.

This is a quick thing to show you how that works. You can see the person who is the interpreter in the middle and the signing Deaf user and a talking voice person who is using the phone in the usual fashion. Again, it's possible to be used by the Deafblind. They have a refresher braille so they get the information on a refresher braille machine but they use relay
services too. And there are some standards there that are mentioned which basically handle a lot of these issues which all come from the ITU and the problems are still there and the fact that a lot of people don't implement are standards that we do and this is just a picture to show you how people looked on the relay services using their computers.

Now, here is a list of the standards that we have done, and rather than go through them, again, I don't want to waste time on that. They are there for you to see later. And the check list I have highlighted, the director has highlighted, the H.702, which was a vicinity standard and the other latest ones, the IPTV, the accessible terms and definitions that were mentioned, and guidelines also for are are -- for promoting and being able to have remote participation so a Deaf person could actually be a participate in this room. There are standards for that now.

And guidelines for accessible meetings in the same, like captioning, sign language interpreter, when required and, again, it is important that we have emergency and requirements for disaster relief as well.

Now, I'm just about done here. This is Study Group 16, is the lead Study Group on accessibility and I come from the joint coordination accessibility on accessibility and human factors. I coordinate to see there's no duplication and I trot over to the D sector and the R. sector to do the same thing as per my mandate. In other words I'm the big busy body to make sure that everybody works together.

Oops. Here we go again. And here we have another list of all, which again, I won't go through again due to time and there are the -- again, just a recap on what I have said, captioning, sign language and fellowships. Very important.

We want to make sure that a message is sent out today, that there's an accessibility fund. Members can contribute and we do need the money to help people come who have are persons with disabilities who may not be able to participate.

I will take this over to my colleague, this is Masahito Kawamori, from Keio University who will carry on.

Thank you very much for your time.

(Appause).

>> MASAHIITO KAWAMORI: Thank you, Madam Sa ks for your kind introduction. Thank you, ladies and gentlemen, it's my great honor to be here to present at this accessibility session.

My name is Masahito Kawamori, I'm currently the Rapporteur -- well, supposed to be. I was in the process. And from Keio University in Japan.
Okay. So maybe we can go to my presentation slides. Maybe I did something wrong?

Okay. Thank you. So without much further ado I would like to go on to the next slide.

So accessibility is a very urgent issue. It's nothing -- it's not something that will be good for future generations, but it's something good for the generation now. For example, we had a big earthquake in Italy a few weeks ago and I'm pretty sure that this will be a lot of problems with person with disabilities and also older people. So it is not something we can wait, but we have to do something now. And for that purpose, we have to have interoperability. And interoperability is something that standards can provide, and standards are necessary to ensuring interoperability between accessible services and technologies.

So interoperable standard-based solution for accessibility to ICT is of immediate need for the current generation.

As has been mentioned already, ITU-T, question 26 of Study Group 16 has been responsible for developing standards, technical standards for -- especially from the perspective of multimedia to accessible ICT technologies. And one of the characteristics of this question is the participation of persons with disabilities organizations such as the World Federation of the Deaf and other UN agencies such as WHO. And there's a motto called: Nothing about us without us. And this is something we're actually practicing in question 26 of Study Group 16.

We're not just recommending standards, but presenting Guidelines for practical use. We are currently working on some of the stuff that Madam Saks has just mentioned. We have these new recommendations that director Chaseb Lee, and one of them is accessibility for IPTV systems and I would like to focus more on this standard in this presentation, because this is something that's available now, and it's also available in the market.

And why do we focus on IPTV? TV sets are familiar to many people, without any special training, young and old, and even for the blind people, remote controls are very accessible. And TV sets are unlike some advanced devices, very affordable, and IP Internet protocol has been pervasive on many devices such as SmartPhones and tablets. So many persons with disabilities have access to IP network already. And interactivity, that can be provided by Internet protocol, can provide better accessibility features and so in some IPTV can provide pervasive, affordable, accessibility to persons with disabilities.
And IPTV standardization at ITU actually has been started with the initiative of Mr. Holin Sal as a form of focus group on IPTV. And accessibility was an important feature of this focus group. And it was continued -- this effort was continued under joint coordination activity of IPTV shared by Mr. Chaseb Lee. And information has been promoted strongly by the initiative of Mr. Malcolm Johnson. So it has been a whole hearted effort from the ITU-T side to provide and promote IPTV for accessibility. And this is a picture of.

One form is set top box, which is from where many people -- to many people, and also in the form of Connected TV which can be connected to the Internet, and also PC, but recently more and more are familiar and these are possible devices to which IPTV services can be. ITU has been working with several organizations such as universities and research centers, worldwide to test and assess accessible features and other features of IPTV on global test bed, and these are the countries that have been participating actively in this test bed and I can show you some of these countries.

Of course being the headquarter of ITU provides the server and access network and things and services and content for IPTV this is one demonstration of accessible features of IPTV reviewed by Mr. Malcolm Johnson in Geneva, Switzerland.

This is a test bed in South Africa, courtesy of CSRI in South Africa, it's a research center, a national research center and you can notice that there's captioning provided by IPTV over Mr. Johnson's video.

And this is a new test bed set up in Rwanda. The University of Rwanda has set up its test bed with help from ITU. This is another test bed in Malaysia. They have exactly the same video and content and high quality content from the head end. And this is a test bed in Singapore. Singapore has been very active in developing and testing IPTV services and applications for smart city. And Thailand has accepted our invitation to join this IPTV test bed and they have created some applications based on IPTV.

And the Philippines as you may know, Philippines has many disaster -- disasters, such as typhoons and earthquakes and they are trying to use IPTV in informing persons with disabilities beforehand and educate them how to evacuate in the event of emergency and disaster. So this is called inclusive disaster risk reduction management and IPTV -- ITU IPTV has been very important in this area.

And now, I would like to go on to the detail -- a little bit of details of the standard behind the examples that I just
mentioned. This is the recommendation ITU-T rec H.702. It is been prompted by with the for persons with disabilities organizations. So this is not something that we came up with, just by thinking, but it has a real -- a real requirements from the persons with disabilities and in a sense this is the first global standard for accessibility standards for IPTV and we are now disusing with European Broadcasting Union, as well as ITU-R to communicate this as a baseline for accessibility services and profiles for broadcasting and cable services.

And these are the features that are provided by this H.702.

One of the features is -- one of the most important thing is closed captioning, so that we can get information accessible to Deaf people and hard-of-hearing people. Closed captioning can turn on and turn off captioning and since this is based on IP, we can also change font size, positions, colors of text and background text, things like that. So if you have any problem with the colors, then you can change. We'll show you in the demo later.

Another feature which is very important for Deaf people is closed sign language interpretation. So not only we can provide closed captioning text. We can also provide sign language and it is very important that you can have different sign language interpretations because, for example, within the English speaking countries, for example, the UK and the United States, have different sign languages. So it is more complicated in the case of sign language and IPTV and H.702 can provide the functionality that will satisfy the needs of the persons with disabilities.

We also can provide audio description and audio guide for blind people, and also accessible emergency alert for -- over live channel, as well as video on demand. This is very important because when you are watching your video, favorite video at home and there's an emergency and nobody tells you, then that's a big problem. So so this is something that we can provide with IPTV interactivity.

This is an example of H.702, architecture. As you can see on the left-hand side, we can provide broadcast type of hidden provision of accessibility, like captioning, sign language and audio description. This is a broadcast type of provisioning. Another one on the right-hand side is more third party, more web-like provision of accessibility features. These are possible because IPTV is based on the Internet protocol.

So in sum,ing ITU-T IPTV for accessibility can be used now. And it provides open platform for accessibility. It can be used by anyone. It can be implemented by anyone and this will enable
affordable, pervasive, accessible -- accessibility services even now.

Thank you. That's my presentation.

(Appplause).

And I would like to now go on and show the demo. This is the set top box. This is the set top box that has actually implemented H.702 and we are now going to show you some of the features that I just mentioned in my presentation.

And the operation is done by Mr. Akihiro Nakatani from ASTEM this which provides services to people with disabilities in Japan and the Philippines.

Okay. So I would like to go on to the next presentation -- I mean, display. So this is first page and we go on to show video. The other way. And please turn off my video.

So can you hear the video? I mean the audio?

So this is Mr. Chaesub Lee. We have captioning. So can you turn on the captioning? The captioning is covered by --

Okay. Can you turn it down? So you can see the captioning. And it has a feature that can be used multiple language. And now it's showing English, but we can also show Japanese or Chinese. This is Japanese version, and I can change the color of text.

Okay. So now it's white and the background color can be changed as well.

Now it's a little less -- okay. And we -- as you can see, there are two captioning here. So it's kind of hard to see. So we can change the position of the closed captioning. Up. So now you can see more clearly the captioning from the set top box and we can also provide, as I said, sign language interpretation. So this is sign language interpretation, providing the interpretation and also as I said, there's captioning, provided by this center, covering the sign language. So we can move the sign language up so that it will be better seen.

So these are the features that can be -- and also, we can turn it off, if we don't want to have the sign language. Okay? Sign language. Okay. Thank you.

So as you can see, this set top box can provide -- where is it? This set top box can provide the features from H.702. It has been tested and it's also available in the market already. And this will be usable anywhere in the world because it's based on the IP Internet protocol. And this has -- this is what ITU has done and what ITU can provide for accessibility right now.

Thank you.
(Applause).

>> ANDREA SAKS: I'm just going to say in closing, without the ITU supporting accessibility, none of this probably would have come about. And also, I want to reiterate, this was also done in consultation with persons with disabilities and I'm going to reiterate again the ITU has a voluntary accessibility fund, which enables us to fund persons with disabilities who have expertise from all over the world, to come and participate in the standardization process. They are the ones that tell us what they need, what works, what doesn't work, and we need to continue their participation.

They don't have the money to become members but they do have a lot to say and a lot to contribute and I want to thank Masahito Kawamori, and Akihiro Nakatani who have come from Japan to show you this. This is one of the great successes for accessible for disability and that's our demonstration for accessibility today. But there are loads and loads of other aspects that need to be implemented because without implementation from your people, from the manufacturers to the service providers, our standards don't go anywhere. So when we put accessibility features into mainstream standards they need to be implemented and that's the message I want to lead you with.

Thank you very much. Those of you who came in late, these will be available. These presentations will be available and we will -- we will be here for the next two days to answer your questions and thank you for your attention.

(Applause).

>> ANDREA SAKS: Oh, I'm told I have to say that the session is adjourned. You will get the next show in about ten minutes. (end of session).