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INTERNATIONAL TELECOMMUNICATIONS UNION
1ST INTER-REGIONAL WORKSHOP ON WRC-19 PREPARATION
GENEVA, SWITZERLAND
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>> PHILIPPE AUBINEAU: Hello. Ladies and gentlemen, can you please take your seats.

Ladies and gentlemen, could you please take your seats. We will start shortly.

Ladies and gentlemen, could you please take your seats. We will start in two minutes.

So ladies and gentlemen, I would like to thank you very much for coming to this 1st Interregional Workshop on WRC-19 Preparation and I would like to invite to join us on the podium, the director of Radiocommunication Bureau, the chairman of the CPM, and also the chairman of the regional groups, six regional groups, ASMG, the APT, the ATU, the CEPT, the CITEL, and the RCC, so we can start this workshop efficiently.

So once again, thank you very much for coming to this first ITU interregional workshop on WRC-19 preparation, and we have our delegates on the podium with us this morning and I would like to start by giving the floor to the director of the Radiocommunication Bureau, who will make some addresses to you. So Mr. Director, please.

>> FRANCOIS RANCY: Good morning, ladies and gentlemen. It's a pleasure to welcome you to this first workshop, Interregional workshop on WRC-19 preparation this week. On behalf of the Secretariat general of the ITU. The successful results achieved with the radio conferences, with their

busy agendas and difficult issues to resolve, have shown how important are all the opportunities to meet formally and informally, exchange views, provide explanations and ideas for a better preparation of the next Conference.

The present Workshop is one of these opportunities and I am pleased to see some many of you here present today and being ready to contribute to The success of WRC-19.

As you know, the Agenda for WRC-19 is not less complex Than previous conferences. In order to achieve the same level of achievement at this conference, we need to continue the trend towards increasing the proportion of common proposals to the conference, and therefore reducing the possible divergence between all proposals. The proposals reached two-thirds at the last conference and we need to work further to bring the proposals closer to each other. I believe that this workshop is one opportunity to go in this direction.

This process of going to more regional preparation or increase the regional preparation and the interregional coordination highlights the great spirit of international cooperation that marks the ITU tradition of consensus building.

It has proved to be a powerful and increasingly successful mechanism to reach agreement within and between the various regional group, as foreseen and encouraged by resolution 72 of WRC-07.

I am pleased to see that all regional groups are well represented today at this Group.

I am convinced that the internal reflections and discussions that have already started within each regional group, as well as their long experience in their internal organization and preparation for WRCs, will benefit all of us during this Workshop.

I am also pleased to welcome about sister organizations and

many international organizations. I think their presence here is also will help better our understanding of the spectrum requirements of the various stakeholders in spectrum.

Your participation to this workshop emphasizes the increasing importance of the WRC process:

To maintain regulatory certainty for a multi-trillion dollar industry which plays a increasingly important role in the development of our societies.

And also to achieve the economies of scale, which enable more affordable use of radio communication services.

In so doing, it is Essential and the WRC, it is essential

To establish the technical conditions for the free-interference operation of all the services and

To provide access to frequency spectrum and orbit resources for new technologies, while protecting existing services and applications.

WRC-19 has many complex issues on its Agenda and I am very much encouraged by the good progress made already within the ITU-R Study Groups and responsible Working Parties and Task Group.For its preparation of.

I am very confident that under the very competent leadership of their Chairmen, all groups will be able to provide the expected draft CPM texts by the end of August Next year which is only ten months ahead of us -- or nine months, rather. This is, I think an essential landmark for the preparation of WRC-19's success.

During this Workshop today and tomorrow, we will discuss, in particular, the most challenging item on WRC-19 Agenda, which is the agenda item 113, IMT spectrum magnification, in the frequency bands above 24 gigahertz,

Which, for some of them, are also be considered for HAPS and for non-GSO FSS systems.

The very active development of IMT 2020 (5G) is putting currently a lot of pressure on manufacturers and operators to start technology developments and network deployments ahead of WRC-19 decisions.The ITU must be responsive to this situation in order to preserve Global harmonization of spectrum which is so essential to produce the economies of scale that will benefit all countries and all citizens for the rapid deployment of broadband.

I am convinced that the best response is to continue, as you have been doing in the last couple of months, to seek an early consensus on some of the candidate bands if possible prior to or at the second session of CPM-19.

The Radiocommunication Bureau will of course continue to

provide the necessary Support to all of your efforts and in particular, taking into account a number of requests I received recently. We are planning to provide the first direction of the director's report in the first part of 2018.

This, I hope, will facilitate the identification of possible solutions to the issues that will be raised in this report. The BR will also continue its effort to support the work of the regional groups, and of the IMT-ITU-R member for WRC preparation. I would like to thank all of those who have helped in this process, to ease their understanding and to be better prepared for the conference.

Based on the experience, we plan more similar workshops this year and 2019, before WRC-19.

Before I conclude, I would like to call your attention of the network of women for WRC-19 initiative, which intends to build women's leadership for the upcoming conference. This network was launched last December, during the World Radio communication seminar,

Subsequent sessions were organized in the context of ITU-R meetings. Further sessions will be organized within main ITU-R events from now to WRC-19.

I also would like to invite all of you to the celebration of the 90th Anniversary of the CCIR/ITU-R Study Groups, since your presence here highlights That you are key players in these Study Groups and the preparation of WRC, contributing in this remarkable process that will complete its 90 years this year.

Ladies and gentlemen, Mr. Chairman, please be assured that ITU staff will assist you in every possible way to make this workshop successful one, and I wish you my very best wishes for these two days ahead of us.

Thank you very much for your attention.

(Applause).

>> PHLIPPE AUBINEAU: Thank you very much, Mr. Francois Rancy, director of the Radiocommunication Bureau. And I would like to invite the CPM chairman, Mr. Khalid Al-Awadi, if you could say a few words.

>> KHALID AL-AWADI: Thank you very much, Philippe.

Thank you Mr. Rancy, dear colleagues, the chairmen of the regional groups, ladies and gentlemen participating as delegates of Member States and representatives of regional and international organizations, and stakeholders and the three.

I would like to welcome all of you to this first interregional workshop for WRC-19 preparations. I would also like to at the beginning thank the ITU and all the staff for the preparations that has been made in order to prepare for

this workshop and provide us with this opportunity together and discuss the most important WRC-19 agenda items.

At the beginning of the cycle, we distribute all agenda items on different responsible groups during CPM-1. From that time, we start exchanging information and start communicating between the different groups, between the concerned or the responsible groups and the other Working Parties in the ITU with regards to the agenda items of WRC-19.

What we are doing here is basically a continuation of this communication, because we believe that communicating and exchanging information and sharing knowledge is an essential part of achieving the best results and achieving compromises with regards to the WRC-19 agenda items. Because also we do believe that working in silos will not take us anywhere and will not achieve any required or good results for these agenda items.

Ladies and gentlemen, during these two days, we are going to have different sessions to discuss different agenda items, with participation of representatives of regional groups and participation of chairmen of the responsible groups for the agenda items.

Basically, although we are midway until the conference, people might think it's too early to find -- or to have proper positions on the agenda items, but we think that it's essential, it's elementary to have at least understanding of basic initial positions of the regional groups with regards to these agenda items.

And if you look at the workshop's website, you will find contributions from the regional groups with regard to their initial positions on the different WRC-19 agenda items; however, I do believe, ladies and gentlemen, that this is not the -- this is not the only requirement from this workshop. This is an elementary issue, however, we are going to make use -- I hope we do make use of this workshop in order to better understand these agenda items and to have it as an opportunity to exchange information, to discuss some of the difficulties that we are facing in the Working Parties.

This is basically a venue where we can really discuss these issues and somehow informal situation, away from the working parties and the discussions during the meetings. I think this is a very good opportunity for all of us to discuss all of these difficulties that we are facing to understand the different agenda items, to share knowledge, to share the details of these agenda items.

Ladies and gentlemen, we are having the experts who are

discussing these agenda items in the Working Parties. Let us make use of the existence of these workshops, of the existence of these participants. I hope we have beneficial and fruitful meeting during these two days.

Thank you very much and I hope you enjoy it.

Thank you.

(Applause).

>> PHILIPPE AUBINEAU: Thank you, Mr. Khalid Al-Wawadi, the chairman of the CPM. Now we will hear about the organization of the regional groups and in order to identify and order, I didn't find another best way than looking alphabetic order. So if you don't mind, I will kindly invite Mr. Kyu-Jin wee, the chairman of the APT-APG, if you could make a short statement about APT. Please. If you can come here, if you don't mind, I will put your slides on the screen behind.

>> KYU-JIN WEE: Good morning. My name is Kyu-Jim Wee chairman of the APG. For me, it is also very impressive and also a little bit strange that this kind of the first practice on this workshops.

I know. So I have to say my thanks to the Chairman of the CPM to initiate this new format of the workshop and together with Mr. Rancy, the BR Director to make us have this kind of interesting situations.

So I will be very brief, because I believe that you have already have some material. So I will highlight some specific aspects from my presentation on file.

First, we have organized for the preparation of the WRC-19 inside of the APG. Sometimes the people confuse, what is the APT and the APG? APT is the organization name in this region, Asia Pacific, APG is one of the work programs, which is responsible for the preparation of the WRC. So APT preparation -- preparatory group is the name of the APG.

We have a structure very similar inside the structure of the APG as the CPM structure. We have follow the CPM structures, and we have several leaderships, including myself. We have two vice chairmen, committee chairman who supports the document produced by the APG activities.

Also we appoint Mr. Rafta to a senior advisor to AP G., but I believe will advise to all others between now and the WRC-19. So we are very proud of having this special senior advisors in our APG.

Then -- so we can skip that. And we have prepared and fixed our schedules so if you are interested in participating in our future meetings, these are planned and already confirmed by the host country and also APT Secretariat. So we will meet in the

next year March, and then year 2019 in January, we will have meetings and final meeting will be in July/August in 2019.

And then we have a process. So I believe that you can see that. But that process consists of the two stages. So I believe you will read it.

And I would like to skip those things. Most important things is we provide our document through the ITU website. So you can download when we meet. After that, you can download our documents, what is our preparations, what is the results of our discussions.

Also, through this occasion, I want to highlight that every regional organizations are invited, are welcomed to participate in the future APG meetings.

With that -- before I close my presentations, I want to highlight that the culture of the APG. So the APG is Asia Pacific, it's very peaceful. It's very warm. And we are ready to discuss. We are ready to accommodate the other regional groups' discussions. So that's the unique culture of the APG.

Thank you.

(Applause).

>> PHILIPPE AUBINEAU: Thank you Mr. Kyu-Jin Wee, and now I would like to invite Mr. Tariq Al-Awadhi, the chairman of the ASMG. If you have any comments to provide at this stage, you are welcome. Please.

>> TARIQ AL AWADHI: Thank you very much. Good morning, everybody. So on behalf of ASMG, we would like to thank ITU for organizing this first interregional workshop for WRC-19. It's very nice have you all here again and to see you again for the preparation of WRC-19 and to see the latest update on the Study Groups that's going on for also the agenda items and how the important things that are going on there.

I will just be brief about the preparation of our spectrum management group. As you know, this group has been established in 2001, by the ICT ministerial council of Arab League. And since that time, the Arab group has this official team working together, all Arab countries for the preparation of WRCs, regional or international related to the radio communication and also coordinating for all spectrum matters that require for the Arab countries.

Same thing that we are developing common proposal for WRCs. In the last ASMG meeting or the first ASMG meeting after WRC-15, now we consider the chairman by myself and I have Dr. Azul, who was our vice president, from Morocco and Dr. Our representative from Sudan. Those are our vice presidents and our chair, helping me also in order to facilitate the work of

Arab group together.

Of course, as maybe similar to some other groups, after the WRC, we have developed also Working Groups that they can work focusing on the agenda items and you can see here that we have developed similar to C. MP structure, six Working Groups. Each Working Group, chairing by one person from the Arab group and they have a number of agenda items where they can work together and develop common proposals, trying to work together, bringing views of all Arab group together and submit it as a proposal to the Working Groups and the Study Groups and later to CPM or to WRC.

The way of Arab group meeting right now is held like that -- we are unable to have a meeting often because of -- it's possible to have all those countries to go. However, we are coordinating by each other by emails, by other means and wherever there is a meeting going on and we are have asking those teams to work together. But the ASMG meeting, what we are doing usually in the first two days of the meeting, they are working to go, preparing their common proposal or position -- I can say position right now. In that meeting, what we are doing right now, we are allowing all other parties to participate in that meeting. Not only Arab group, private sector also from different countries. Others, academic, they are participating and submitting their proposal also to this Working Group. This Working Group is discussing those proposals and try to make common position as much as possible for Arab group.

And the third day or the fourth day, there will be a plenary situation for the ASMG group to submit them, and they try to approve or agree on these position.

This is the we, our new procedures for the ASMG meeting are going on. And the Working Group is important for us, because all the discussion going on there, and that's Working Group.

So I think the rest of the items will be found, our current position for ASMG on all agenda items. I think during the workshop today or tomorrow, we will see it, where our position. We will go through that one.

Just information that we had two meetings now for ASMG meeting. The next meeting will be in Morocco next year. It is not decided, but mostly it will be from 9th to 14th of April, in Morocco. Once it will be definitely decided, then we will send invitation to all regional groups to welcome you to participate.

Since I have the floor, I will just mention that we have here from our colleagues Mr. Francois Rancy about the important of spectrum in different country and parts of the world, and

how it's important for governments, private sectors. Recently we were in WTDC-17 in Buenos Aries. There were interesting proposals, on how to improve the services in many developing countries.

So it was a very interesting contribution, really, and we worked together on that one in order to at least make it useful also for countries and for the Union itself. However, what I have -- I have seen how those countries or private sectors is really looking through this spectrum of radio communication services, how they want that spectrum to be available in order to introduce or to bring new technologies in those countries and to improve or enhance the services or the infrastructure on those developing countries.

It shows really we have a lot of work for our radiocommunications people here, that we need to fulfill their requirements in the next conference or up to next conference also. Arab world are looking to the WRC-19.

There are a number of agenda items, ASMG, also a item of agenda items related to satellite, and it's important for all of us. And important for all worlds looking, what will be the decision at the end of this conference and how we can get spectrum in order to bring this new technologies.

In our countries, my country, UAE, we have introduced things about artificial intelligence. We have a new minister of artificial intelligence, a minister, a new guy, a young guy, he's the minister of artificial intelligence. We have smart cities and they are all asking us to have now more frequencies for those new technologies. So I can see that really we have a lot of work to do. We have a big challenge in order to come up with really a good position, a good proposal at the end of conference of 2019 and the outcome of that conference should really reflect our work and our union work in these times.

So thank you again for arranging this workshop and we believe that during these two days we will have interesting information and dialogues about where we are now in terms of Working Groups or in terms of position of each regional group.

With, that I would like to thank you all. Thank you.

(Applause).

>> PHILIPPE AUBINEAU: Thank you very much, Mr. Tariq Al-Awadhi, chairman of the ASMG for these interesting comments.

Now I would like to invite Mr. Kezias Mwale, he's representing the ATU Secretary General who could not be with us. So Mr. Mwale.

>> KEZIAS MWALE: Thank you, director. Thank you, CPM chairman. As Mr. Philippe said, I come from the AT U. We don't

have a permanent chairman for the WRC preparations. What we have is a rotational chairmanship. So the host country for a given preparatory meeting is by default is the Chair, unless they waive.

So already, apart from the chairman bit, which we differ from the rest of our friends, really, there's nothing so special about our arrangement for -- nothing else special about our arrangement for WRC preparations. So allow me now to give you what you expect to be taught.

Number one, the very first level of preparations are done at the national level, in some countries, but where things start to kick in, is at the subregional level. We have five subregions. One in the south, the SADC region. In the east is the East African community. West is EWOS, and the countries in the north, usually they do things under the ASMG, but they come usually as -- as the ASMG.

So we have five subregions.

Now the voice of the subregions in informing the African voice is very, very important. Usually -- usually -- not always but usually the decisions at the ATU are based on the proposals and the views of the subregions. So very, very important.

And then similar to the rest of the regions, we have six Working Groups, one looking at each, looking at the six chapters, the current arrangement of the CPM. So these are led by permanent chairman at least. We have a permanent chairman. There's two permanent vice chairs, as well as a rapporteur for each of the agenda items, in some cases, two or three or more rapporteurs. So the subregions feed into the Working Groups and then the subregions as well as the Working Groups feed into what we call the APMs, the African preparatory meetings.

Here we have scheduled four. Two have taken place. One in 2016 in September, in Kenya, chaired by Mr. Obam, who many of you may know. The second meeting was in Senegal, chaired by Mr. Cece, if you can wave, please.

So that was the Chair for the second preparatory meeting. If you have something to -- to say, please you are able to engage him on behalf of the region.

We will have the third one in 2018 and the last -- the fourth and the final one in 2019.

Usually the question we get is who can participate in the Working Groups, as well as the APMs. So certainly, it's the membership of ATU. So the Member States themselves, as well as their associate members coming from the industry, but, again, it's a permanent invitation to all our friends or the other regions, and I'm very happy to say that in the last one, we

have CPT and CITEL participating. So thank you very much.

And then all the other interested parties. So the other international organizations, WMO and all. But here we mean all interested parties of the Working Groups and the APMs, please indicate to us. Normally, we will be able to extend an invitation to you, but our doors are open, even our windows for that matter.

And how our decision is taken, ordinarily by consensus, and really countries try to give and take. If that fails, and it only fails in the last meeting, the final decision meeting before coming to the world radioconference itself. Here if something is not decided by consensus, we have a golden rule, which says that the given issue must be supported by 15 countries and no more than eight express objections.

So the eight should be expressed objections. It also happens that if an issue is so divisive, then it will not get a common position. Very rare, but it's a possibility.

Where are we in terms of the preparations themselves? I invite you to take a look at the APM-19-2 report. That's the Senegal outcome, is very much online. And I also invite you to listen quite keenly to the various representatives of our rapporteurs, and our chairman or vice chairmen will discuss the actual agenda items.

Mr. Philippe asked if we have a list of priorities. The APM19-1, to the Nairobi meeting took a decision to not list any priority. Lest we ignore other matters. So perhaps the third or fourth meeting, we may want to attempt to do that kind of prioritization.

At this point, I want to thank again the ITU through the Director for supporting our meetings. I want to thank again, CITEL and CPT for attending our last meeting and really invite the ASMG come to us via the north African countries. So perhaps it's a standing thank you, but perhaps to invite warmly the APT and the RCC to try and attend the third and the fourth meeting and really to thank, if there's representative of the WMO, and to thank the associate members who provide the much needed technical assistance and technical options.

Thank you very much.

(Applause).

>> PHILIPPE AUBINEAU: Thank you very much Mr. Mwale for the ATU. And now we would like to invite Mr. Alexander Kuhn, I hope you pronounce well, who is the chairman of the CEPT conference preparatory group. Mr. Kuhn, please.

>> ALEXANDER KUHN: Thank you very much to the director. Thank you very much to the ITU for organizing this

interregional workshop and providing us to a facility of informal exchange of views. That's always very appreciated. I also Aileen myself fully with the kind words of the CPM Chairman and I thank him also for his words and the invitation to this workshop.

I believe, and CPT is believing in transparency and in communication. And I'm quite sure that communication is what drives all of us, all over the world forward in terms of technological development, but also in terms of personal development.

CPT, the conference of the European post is built up on this and we are working hard and I hope also effectively to bring forward all of our European ideas towards the WRC-19.

With regards to the structure, I think it's always nice to have some structure in front of us in order to start with the communication. You see that we have a very small team right now on the top level. I have the honor and the pleasure to chair the conference preparatory group towards the WRC and I have until now one vice chairmen Mr. Osinga from the Netherlands who is present here as well and we are looking for another one at our next meeting so we will have two vice chairmen and I have a technical secretary would is making lots of organizational stuff and bringing forward some messages also from Gerof.

We have other regional groups as well, and we are looking forward to the European common proposals and I need to mention here as well, that we have a second set of documents that are our CPT briefs which contain the now important preliminary positions which are now also contained in this preparation.

So the next slide. You see we have organized ourselves also with project teams, five in total. Not completely aligned with the CPM chapters. I have to admit that.

We look forward to how can we support the ITU studies in the most efficient way. So therefore we organized our groups a little bit like the ASMG with a look to the different responsibilities set up by the first meeting of the CPM. So we look forward on the Study Group one, the Study Group 5, maybe 5A, 5D meetings and this is then our organization on that one and I'm very happy that we not only have men in our leadership team here but we also have one woman. And we can also encourage many more of them to take the leadership of some of the group activities.

Beyond that our PT chairmen will play an important role in this workshop. They will represent ourselves in this workshop, but we will have for each agenda item also our spokespersons. These are the CPT coordinators and they drive the informal

discussions at the ITU meetings. They provide our views and they are open for all the exchange of views which is essential to really build up some kind of consensus for the different agenda items.

If you ask me now if we have some type of priority of the items, I have to admit a similar situation like for the African colleagues, we not have a priority right now. Of course, there are priorities coming from the agenda and the importance of industry, but each agenda item on the agenda of the WRC has its own priorities for those persons who proposed it and also for the industry who is standing behind it. And therefore, we have to take it and bring it forward and find a conclusion at the WRC later on.

What I would like to say with regards to my dear colleagues and I said it already that CPT is open and transparent, you will find all of our documents on our website. We are inviting representatives from the regional groups. We will have eight meetings of CPG in total until the WRC. That's the plan right now and our next meeting will be in Hungary in January, and, of course, the representatives are welcome there as well.

What I would like to say is a huge thank you that we are also invited to your meetings and we have for this WRC a very good relationship and very good common understanding of these agenda items. It would be a good thing where we could go forward and drive forward also our communication towards the WRC.

With this, I would like to go to the next slide, if there is still one left. Yes, maybe just a quick to our proceedings. We have, of course, also some kind of legal framework, how we come to European common proposal. We need ten administrations out of our 48 Member States in support of an ECP, and we have a general guide line that not more than six should oppose. So if we have some more support, then maybe we can also deal with some more opposition, but this is then subject to the final meetings of the CPG, the two last meetings are there for this kind of voting if you would like to code that but we go with a consensus-oriented process and that's working quite well.

What we are doing we coordinate ourselves at the ITU-R meetings and we are happy to go with this as well. And I'm very appreciating, if you can go forward in this workshop also, inform your -- us about your views towards the different agenda items. Maybe we can exchange also some ideas forward and also some problems if you have any views regarding the ITU-R studies or regarding our preliminary CPT positions.

With this, I would like to close for the moment and I'm here

for the workshop if you have any further questions.

Thank you very much and thank you very much to the panel again.

(Applause).

>> PHILIPPE AUBINEAU: Thank you very much, Mr. Kuhn, the chairman of the CPG. Now I would like to invite Mr. Carmelo Rivera, the chairman of the CITEL-PCC.2 Working Group for WRC. Mr. Rivera. Please. The floor is yours.

>> CARMELO RIVERA: Good morning. I would, as previous speakers, would like to thank the ITU, the Director and the Chairman for CPM for arranging this workshop. It's my opinion that if we don't have workshops like this, the four-week WRC would be extended to six weeks or more, because at least here we can find out where we have correspond proposals, where we can have agreements. We can take care of those early in the conference and concentrate on the more difficult situations.

So the status of preparation for WRC-19 through CITEL are Working Group within PCC2, the permanent consultive committee two in CITEL is myself as chair and I would like to explain as chairman, I'm not anybody's boss. It's more like a coordinator or herding kittens at this point.

The vice chairs, victor Martinez from Mexico, and Martha Suarez from Colombia, and if we -- the next slide, please. And as you can see, we have divided also kind of similar to the other regions. We only have four sub Working Groups. Some of those are divided into, say, for instance, sub Working Group 2a and 2b. We also had a 3a and b3, but we decided to merge those two. You can see that they try to put a like agenda items to go. We have a coordinator and alternate coordinator for each one of those Working Groups. Their names and email addresses are listed in case you have any questions about those groups, you can contact them directly.

This -- I believe that this presentation is also available on the website for the workshop.

Now, the way we work, is we start out with preliminary views. And that is exactly what it is. It's a preliminary view of our Member States for each one of the agenda items. They have information. They have background, and how the Member States believes that this agenda item can be solved at the WRC.

We go on from there to preliminary proposal. That is a proposal brought in by one CITEL member state. It is that proposal for solution to that agenda item from that member state and it only has one member state in there. Excuse me. The support by one member state in there.

When that proposal gets support from at least one other

member state, it then moves on and becomes a draft inter-American proposal and it will continue to be a draft inter-American proposal until it receives the support of at least six Member States. If a document -- if a preliminary proposal receives the support of at least six Member States without the opposition of 50% plus one of the number of states that support it, it will become an inter-American proposal.

The inter-American proposal will be designated as such, and will be forwarded to the ITU as a proposal for the WRC once it has reached the end of its discussion. Of end of its discussion can be either when all the Member States have agreed to support or the last CITEL meeting before the WRC.

We do have two meetings per year. Each is four or five days in length. We do invite all the regional representatives to -- to our meetings. We have quite a bit of coordination between the regions, and we have -- as of the last meeting, all of our output documents from each one of the meetings will be on the CITEL website without a user name and password.

Our next meeting as a matter of fact is next week. I know it's late in the process, but we have invitations to all the regions and I believe that most will be attending. And I look forward to seeing you there.

Once again, thank you very much for setting up this workshop and I look forward to the next couple of days. Thank you.

(Applause).

>> PHILIPPE AUBINEAU: Thank you very much, Mr. Rivera, the chairman of the CITEL PCC2 Working Group.

I now would like to invite Mr. Albert Nalbandian, chairman of the RCC Working Group on the preparation for WRC. If you could kindly say a few words.

>> ALBERT NALBANDIAN: Good morning to all, the distinguished Chair, colleagues, the spectrum users and the WiFi technology necessities the revisions of the radio regulations, which is under constitution. I will remind you the main objectives are the distribution of frequency bands and the approval of the modalities of their use.

As you will be aware, the resolution 72 of the WRC, encourages fosters official and unofficial cooperation in the intercession periods to overcome certain issues faced by the conference.

In that conjunction, I would like to associate myself to all of those who have expressed gratitude to the BR, and the CPM director for the organization of the first of the three seminars which would ensure that there's feedback with Member States, society members all of those involved in the

preparation of the conference and will be taking part of it.

Slide 4, please.

Three events were the basis for holding WRC-19 and its preparatory process. The radio communication committee, which revised resolution 2 on the preparation of conferences, and the WRC-15, which through its resolution are recommended agenda items to the council and stepped up the process of preparing for the conference under resolution 2.

And thirdly, the first session which is organizing work in the intersessional, interconference period. All of that was laid as a basis to start preparation for WRC-19. As you know, we have a four-year cycle at ITU ever holding WRCs. So the preparations started regional and then global levels. The RCC conducts preparation in traditional -- traditionally in accordance with a plan. The RCC commission for the regulation of orbital radio communication resources is responsible for the preparation process, which is chaired by Mr. Vladi Pacheko to organize are agenda items.

The RCC is set up a commission to prepare oppositions. We have opposition as of the 14th of September. General proposals, which are going to be thrashed out on the basis of the position paper. And the third paper would be our proposal so for the organization of WRC-19. This Working Group will have to also Liase for items 19 and 23 of the agenda.

It is behind the whole preparation process, and so I would like to tell you apart from the chairman, myself, we have also elected the vice chair, Mr. Nikolai Valamove and secretary, Mr. Nikolai Kolvachev. All matters for preparation could be put to these three RCC representatives. Our preparatory group has held four meetings to date. The overall result is the 14th of September RCC position on the basis of the principles listed on this slide -- the next slide, please -- by the application of these principles.

We are have developed our position with regard to all the issues of the agenda.

I'm not going to speak in detail about all of the current work. I will merely highlight three of the issues which have a reason immediately after the start of the preparatory process, three clusters of matters. First of all, overlapping the frequency bands, you are all aware of that issue. It's being considered by the CPM and that's why I'm not going to speak in detail to that. The second cluster of issues is the clarification of study topics, study questions. It's more or less an internal matter in the preparatory process, of the RCC made necessary amendments, clarifications prepared by the

group.

The third cluster of issues, which needs a little bit more attention, are standing agenda items of WRC. It's item 7, and item 9.1, including 9.1.1 until now 9.1.9 and we have a question whether the number of questions considered by -- in standing agenda items or items would be growing because they are self-propagating, self-multiplycating. We arrived at the following conclusion here which I offer to other regional organizations and so if you find consensus, perhaps this matter would be solved at the next conference.

First, under item 7 of the agenda, I would like to remind you, it relates to resolution 86 of the plenipotentiary conference and the resolution of WRC.

We suggest considering the possibility to offer to the conference to consider only matters which have been considered to the Working Party, Working Party 4A and incorporated in the CPM report by consideration of the WRC by itself and between the adoption of the CPM and the conference reports. Well, it is impossible to solve this matter, to solve such matters of the conference.

To suggest or rather to invite relevant stakeholders to present their proposals for the inclusion in item 10 of the next cycle. Now, that is with regard to item 7.

With regard of 9-point, is which is reports of director, for the period since the last conference and here depending on the number of resolutions adopted at the previous WRC conference, to set -- or to develop further study questions. Today we have nine of them. And there is nine subitems and we have arrived at the conclusion that matters are I don't know the purview of the director's report, that this matter would be better removed from 9.1 or stand alone agenda it ums following WRC.

We do need to take relevant decisions at WRC-19 and that why with regard to 7 and 9.1, we consider the possibility of developing amendments to resolution 86 by the plenipotentiary and WRC resolution -- and resolution 804, resolution 804 relates to the preparation of the agenda for the next conference.

In conclusion, I would like to emphasize that in our work, we proceed from the assumption that good preparation is the key of success and first of all, consultations within the regional organizations cooperation with other regional organizations and compromise -- and compromises WRC. So we look forward to adoptioning our decisions on WRC on consensus basis.

Thank you.

>> PHILIPPE AUBINEAU: Thank you Mr. Nalbandian by these

interesting comments.

I know we are already a bit late on the schedule. I apologize for this. And I have nonetheless prepared some slides to introduce you, the ITU preparation for the WRC.

I know -- I would not like to take already too much time on the next session and I apologize to the chairman of task group 5/1 who hopefully will kindly give me some few minutes to present this presentation.

So without losing more time, what I have prepared here for you is this, first of all, introduction to the workshop web page, where you will find all the presentations that have started to be provided you to this morning and many other input documents to provide useful information on the position of different entities, of course including the regional groups.

As a program also and the detailed version is available online. You see there the name of all the panelists and on the right-hand bottom corner you have also a link to the regional preparation web page for WRC-19. Again, when you can find all the useful links to the different regional groups, web pages and positions, and also have highlighted here the link to the CPM web page and the other page containing the ITU-R preparatory studies for WRC 19.

We are in the process of, I think, all to a common goal, that is to preach as much as correspond proposals as possible for WRC, which will implyify the work of that WRC and this slide gives you all the other inputs that would be prepared for WRC-19.

We are in the middle of the cycle. We are within the ITU-R Study Group meetings. They are all involved and they will prepare reports, recommendations, of ITU-R, as well as draft CPM text to provide necessary operational and regulatory information for the work and the preparation of the ITU Member States. What is important to note here also is the involvement of ITU sector members in the work of the Study Groups, so that they could also directly provide their views and contribution to the preparatory work. And, of course this will be summarized during the second session of the CPM.

>> We have some main steps for the WRC-19, including WRC-19. You have here the list of all the agenda items. You note that some agenda items are not assigned to any groups and they are standing agenda items, 2, 4, 8, 10 and other items 5, 3 and 6 which are not directly related to the WRC, but more to the work of the WRC. The agenda item 8 is addressed further on. I will not comment on that, but it's important to recognize the need to prepare for this agenda item related to country footnote in

Article 5, table of reconciliation.

We should not forget also the preparation for the studies for the WRC-23 preliminary agenda items. They are listed here and most of them have been also allocated to a Working Party. And for preparation of proposals, which would propose a new agenda item for the next WRC, we should also remember resolution of 804, for the establishment of the principle and the template for the proposals.

The responsibility, they will escape this slide. You can read it peacefully. This is a web page, which contains the up-to-date information from the responsible groups, the Working Parties. You have here the list of the documents, which are typically chairman reports of the last meeting, together with the Nexus containing the studies and also the status of the draft CPM text preparation.

The framework that would plead to CPM 2 is summarized on this slide. So as a result of the text prepared for the CPM report by the responsible group on the different agenda items, we'll go to chapters of the CPM report. This CPM text has to be provided to the 31st, August 2018 to the rapporteur of the CPM, the name of which is also contained in the second part of this preparation. We will have the CPM management team meeting to consolidate the report, which will then be made available in six languages in the draft CPM report three months prior to CPM 2. CPM 2 itself will be held as planned on 18-28, February 2019, during which the final report of the CPM will be for the WRC-19 and it has to be made available six months prior to the WRC-19. We have much work in 2016, 2017. 2018, you can note here that many meetings have been scheduled already for the finalization of the draft CPM text in the different responsible groups about you those responsible groups will also continue to meet afterwards to finalize the draft new report or the recommendation related to the WRC agenda items.

When you prepare CPM text, please don't forget to get our text from the CPM web interface. We will have a short presentation of this interface tomorrow during the lunch break and we will do that at 12:00 for 30 minutes.

We should not also forget the preparation for RA19. We have put here two slides at least several of the ITU-R resolutions which called for studies and RA19 will review those studies and decide on the next step with regard to those ITU resolution. So the studies are carried out by the ITU-R Study Groups. You see here the scope of those six ITU-R Study Groups involved in the studies. And if you simply want to know which Working Party is dealing with the particular topic, you are invited to look at

document 1 in every Study Group, document series, which lists all the text assigned to the Study Group, their Working Parties and what is the status of this text as well.

I would like to draw your attention to this regional preparation web page that I mentioned before. Here you have the date of the next meeting, as far as we have been informed. So this is also kept up to date and we will schedule two more workshops of that kind. The next one is currently planned to be held in November of next year. The state are still subject to confirmation and also the number of dates, two or three days. We decide and we will try to locate it very closely to other ITU-R meetings to as to facilitate the participation and the third workshop, which will be presenting the CPM report which will be located more closely to the WRC-19, most likely in September 2019.

So here you have the detailed version of the programs that I mentioned, the link to the web page, and here is the outline which indicates that we are already about 30 minutes late to the schedule, and I would like therefore to adjourn for now, and thank our distinguished panelists for the participation in this opening session. I'm sure you will come back again later today or tomorrow, to continue the discussion and therefore, what I would like to suggest is a ten-minute break, if we can have a ten-minute break now and then I will call for the next session, the roundtable on agenda item 1.13 to come to the podium. Thank you very much.

(Applause).

(break).

>> PHILIPPE AUBINEAU: Ladies and gentlemen, if you could come back and take your seats, we will start in two minutes.

Ladies and gentlemen, please. We will start in two minutes.

So ladies and gentlemen, if you could kindly come back and take your seats. We -- as I said before, we are already a bit late on the schedule. And I thank the chairman of task group 5/1 who kindly give us this time. We have roughly 35 to 40 minutes to look at this agenda item 1.13, dealing with IMT and bands above 24 gigahertz.

But since I'm not the expert, I would like simply to thank the panelists for being with us, for this session, and give the floor to Mrs. Cindy Cook, the chairman of task group 5/1 for this round table. So please take your seats, and we start now.

>> CINDY-LEE COOK: Thank you, Phillippe. I have this I we have the fullest panel and I will try to be as efficient as we can. We will try to make up a little bit of time. So first let me introduce the panel to you or our roundtable, I guess. From

the APT, we have Dr. Kyung-mee Kim, from ASMG we have Mr. Cha reek Al-Awadhi, and ATU, Usman Aliyu. And from KEPT, it was supposed to be Steven green. If the UK can find Steve and send him up. Steve, we are paging you to the front. Thank you.

From CITEL, Ms. Luciana Camargos, and from the RCC Sergey Pastukh, and from the mobile operators Mr. Mats Ohman, and Mr. Lass Wieweg, and Mr. ESA, Eduardo Marelli, representing the space/science and representing the FS satellite, and with Ms. Aarti Holla. As you can see, we have done something a little bit different this type, aside from the six regional groups we have added our four primary stakeholders for agenda item 1.13. Very quickly, this is the agenda item that is looking at spectrum between 24 gigahertz and 86, for identification for IMT, specifically for IMT 2020, the next generation of mobile communications.

There are 11 frequency bands that we are doing studies within. Eight of them already have a mobile allocation and three of them do not. So as you can imagine, there's quite a bit of studies to do under this agenda item and we required, since it's for IMT 2020 and a brand new system and technology, we needed a lot of information from the contributing groups.

This agenda item, actually, I think has every single Working Party in ITU-R listed as a contributing group to our studies. So it's a little unique in that aspect as well. And there was deadlines for all of them to provide information. Some of this information, of course for the new systems like IMT 2020 took quite a bit of effort and I want to thank all of those who participated in the work of Working Party 5D to provide that information to the task group so that we could start our studies.

In particular, for those who attended CPM 19-1, you will know that we were provided with terms of reference for the task group. These terms of reference outline what we are responsible for providing to CPM. In particular, the task group is responsible for conducting the sharing the compatibility studies, based on decides two, three and four, which are in those terms of reference, as well as providing and developing the CPM text for this agenda item.

I quickly want to talk about what was provided to us, because that is a big part of what we accomplished so far, in the task group. Working Party 5D was responsible for providing to us their spectrum needs, the technical and operational characteristics including protection and the terrestrial component of IMT. All the other Working Parties that have services within the bands that we are studying and adjacent to

the frequency bands that we are studying, we are responsible for providing to us their technical characteristics, including their protection criteria for the existing services there.

As well, by the 31st of March, this year, at the latest, and the Working Parties of Study Group 3 were to provide the relevant and did provide the relevant propagation models for our studies.

All of this work was to be provided by the 31st of March. We received most of it. So I thank those that provided that information, and with that information, we have started the studies within the task group.

Now, there was some discussion on these parameters within the task group. Some questions for clarification were sought. So we have beenly asking with some of the Working Parties that have provided that information, but also given that the task group does have all of the experts available to us, at our meetings we had some sessions to clarify the parameters, and that clarifying technical information is provided in annex 1 of the Chairman's reports.

As you can imagine with so many studies to do trying to organize the work has been a little difficult. We have organized the work, based on the frequency bands and all of our studies that we have reviewed so far, within the task group are contained in working documents, based on the frequency band and then there are attachments to those for the particular services that we are studying with IMT.

So that is just my introduction to the work that has started. So we have gone through our -- we received most of our parameters. We clarified those. We have started our studies and we have also initiatived our draft CPM text.

Given the short amount of time that we have and Philippe has asked me to gain us back some time, and the number of panelists, I think we will only have a few minutes each. What I would like to ask the stakeholder representatives and our groups, if we can give us a background of the work that they are doing, what their expectations might be for this agenda item, if they have any preliminary views on the agenda item and then what their interest is or what their concerns are.

So that would be kind of a -- I guess the questions could you start with. And if you have any time and there are questions from the floor, we will take those.

So I'm going to sit back down and we'll just kind of go through. There are five microphones that you can pass amongst yourselves on the tables. So there's no need to get up and I guess we will talk -- sorry, start with Dr. Kim, if you -- APT,

please. Thank you.

>> KYUNG-MEE KIM: Thank you, my name is Kyung-mee Kim. I'm from the APT. The chairman introduced the APT structure, and our agenda 1.13, 1.16, and issue 1.9.5, and 9.1.1, 9.1.8. So regarding agenda item, 1.13, yes, this is one of the hottest agenda items within our APG, and we had several inputs. And after the discussion, we developed AP.

It preliminary views. You may find the APT preliminary views in the document, in this workshop, maybe document number four in annex 3. So I'm not sure you can see the -- on screen. Not yet.

Okay. Fine.

So I will read the APG preliminary views because I'm the representative of APT. So I will introduce the APT views.

First of all, the APG agenda views about 1.13 is APT members support the frequency bands for IMT, including possible additional mobile, in accordance it 238. APT members or support ITU-R for the component for IPT and sharing in accordance with regional 238, it is important for this sharing and compatibility studies to take into account the protection of services to reach the band allocated on a primary basis.

During the discussion, three issues were raised, one is the prioritization of the frequency bands for sharing and compatibility studies. It doesn't mean the supporting of the bands. So most due to the timely for the finalized agenda studies. So most input indicated the frequency bands below 43.5 gigahertz should be made -- should be conducted first in the number of frequency bands and also the other -- but there was no -- we are waiting for the other context of the next meeting -- and the second issue is the need for APG, and the reasonable perspectives but after the discussion, APG members agree -- encouraged to participate in the relevant ITU-R group activities and also we -- we discuss based on the issues.

The their issue is the overarching issues of the frequency bands among our -- with other agenda items, but this was -- it is -- this issue was not discussed in details due to the absence of a concrete proposal. So we are waiting for the contribution at the next meeting. So the third meeting in March next year, we will focus on these issues, as supporting the frequency band.

Thank you.

>> TARIQ AL AWADHI: I will be brief on the ASMG on 1.13. 1.13 has become one of the important items in all groups and even in the -- the ASMG group is one of the important items.

In the last meeting, what we have made that -- all the

listed band is important for all countries, however we have decided that to focus studies on a number of frequency band that we have selected there, that's these bands which is 24.25 to 27. And 27.5, I think so. The band 32 and the band 42. Those three bands, we are asking to focus studies on it and make some contribution, sharing studies. Of course, there are some other bands we are also looking for it, which is in the higher band, which is 60 or 70, like that. These bands, why we say that -- because we have seen that task group 5/1 or Working Party 5D is trying to conclude for their CPM text support. And we have to have some sharing studies, reports, recommendations, at least to be ready for all countries before the CPM and after the CPM so they can make sure that to prepare their final position for WRC-19.

So this is how the war going on, of course, we are looking for the spectrum needs, the requirements, for the different type of application that can be used for -- by mobile broadband. So this is an ASMG goal.

>> USMAN ALIYU: Thank you. Usman Aliyu is my name from ATU, for agenda item 1.13.

We have actually gone through some processes. The outcome of WRC-15, we send out questionnaires -- I mean, ATU send out questionnaires to Member States to get to know the utilization in these potential bands that they have been identified for studies. So after the questionnaire, we had also the expert. This falls under our Working Group, 2same as Chapter 2, and the structure of the ATU. So we had experts meeting and I reviewed the questionnaires and looked at the chances of harmonization, which is very, very key to us, to be able to reap the benefits of the costs of equipment and the economies of scale at the end of the process.

So we also had the African preparatory meeting, which looked at the accommodations of the Working Group two on these individual bands and what we had as a result is -- at the moment, we have prioritized two bands, the 26 gigahertz band is prioritized as a priority candidate band for Africa, based on the potentials for harmonization, and the usage of the band, which means even if there won't be a need for migration, by users on the band, it could be a little bit easy.

And we also looked at the 37.5 up to the 43.5 gigahertz band, which you also prioritized. We looked at it as a whole as 40 gigahertz and also following up on that, as I priority candidate band.

For all the other bands, we support the studies of -- the ongoing studies in the bands and Kim to follow where the

results of the studies go because that will really help us in making our decision.

In addition to all said, also in collaboration with our friends in the industry, Africa intends to also submit in time for the next meeting of TG5, at least a study and the 26 gigahertz band has to do with the multi point aspect of the fixed service for IMT. So that's at the moment what we have, our priorities and the 26 gigahertz band and then the 40 gigahertz band, which spans across that 7.5, up to 43.5 gigahertz.

Thank you.

>> STEVE GREEN: Thank you. I'm Steve Greene. I chair the ECP and the CEPT. We are responsible for the technical work on this agenda item, plus three of the issues on 9.1. We also propose updates to the CEPT brief which CPG will then consider for -- for updating the actual -- the documents. And you can see the current brief in the -- in the CPT document that's been made available for this meeting.

When we started work on that, we realized it was a very complex agenda item, partly because of the wide range of frequencies that are in the scope of it. And therefore, the wide range of potentially affected other services which means quite a lot of studies would be necessary.

What we did was we initially started by focusing on the particular frequency ranges out of that group, and what we wanted to do is look at bands that had a potential for being globally harmonized for 5G for IMT 2020. That's partly how we looked at the focusing.

Our initial focusing was on the three frequency range, the 23 gigahertz, 32 gigahertz and the upper part of the 40 gigahertz at 40.5 to 43.5. We have done a lot of studies on -- on those, particularly on the 26 gigahertz range and we are also in parallel looking to see whether we can harmonize that within Europe ahead of WRC. But we ovillus need to take account of all the technical analysis that's taking place globally and make sure that we are not out of step with that.

In the later stages, we have also started looking at the 66 to 71 gigahertz frequency range which also offers some potential for license exempt usage.

I think first, I'm encouraged by the huge range of contributions that we have seen in TG5/1, especially on 26 gigahertz from across all the regions. And I think they demand effort on this. It says to me, that what they will get at are some good technical conditions and a technical understanding the sharing issues and what you need to put in place in order

to make sure that 5G can share for us, we think the -- so far we think the message is or the indications are that the inbound situation is quite manageable, and the more critical issues now are turning out to be the adjacent band, particularly with passage services.

We think that's manageable through setting the right technical conditions. We just need to work out the sort of -- the -- how to frame those and what the actual numbers need to be, and that's based on ongoing analysis that we have got going. But I'm -- I'm optimistic that with the amount of technical work that's going into it, we will have a good set of proposals from all the regions for some faction for the event at IMT at this conference.

Thank you.

>> LUCIANA CAMARGOS: Good morning. I'm Luciana Camargos, I chair the group for CITEL responsible for this item. We are in the stage of presenting preliminary views especially for this complicated agenda item. We have some proposals. We have an intraAmerican proposal for simpler agenda items. This is very complicated. We have received preliminary reviews from Brazil, Mexico, US and Colombia. All countries are highlighting the support for these studies conducted in the ITU. I would know that Colombia has included mention for the lower bands, up to 43.5 gigahertz.

Our next meeting is next week. So I expect this issue to escalate from next week onwards and to TG5/1. I would like to point out that we have issued a questionnaire for the use of the bands, all of these bands under consideration for agenda item 1.13. This is document 4310 if anyone is interested. It has been responded by 14 administrations. So it gives an overview of how these bands are currently used in CITEL and that will be used as the basis for our proposals next year.

Thank you.

>> SERGEY PASTUKH: Thanks very much. My name is Sergey Pastukh. I have been task for the purpose of this symposium to present on the behalf of the RCC with regard to terrestrial services, including agenda item 1.13. The position of the RCC countries with regard to 1.13, was prepared and approved last September and in input documents of this seminar, you will be able to find document 26, where our position is put forward.

Very briefly on your position, it contains only four provisions.

The first one is that the RCC countries fully support the need to determine the frequency bands for 5G, and 5G networks and we are confident that the WRC-19 will be in position to

positively solve this issue.

The second position, the second provision is that alongside with other regions that we have made prior to provider itization in our research. We have identified four frequency bands, which are the -- were at the moment, we are conducting our studies. It's the 26 gigahertz, 32 gigahertz band, and 40.5 to 42.5, .5. And 66 to 71 gigahertz.

The third provision is the fact that while conducting our studies, we would need to take into aggregated interference from IMT systems. And in terms of this latter provision, it's a traditional one, speaking to the fact that we need to identify the kind of conditions for the introduction of IMT 2020, which would make it possible not only to introduce but also to protect from interference the existing systems.

With regards to compatibility studies, which are now underway in our region, I would like to say a few words about each of the frequency bands with the 26 gigahertz band, we can say that our research has shown the need for certain limitations on the operation of IMT systems, in order to ensure the compatibility above all with passive services in the adjacent frequency band. And at the same time, in our estimates, these conditions are not going to impede the development of IMT. So with regard to the 26 gigahertz bands we believe on the whole that there's going to be a fairly positive outcome, but these are results which we haven't yet discussed at our RCC meetings.

With regards to the 32 gigahertz bands, our studies have shown that there are serious issues in terms of compatibilities with raiders in this frequency band. That's why the limitations on the IMT in this band could be critical with a view to the positive introduction of this systems in the frequency band.

Now the 42.5 -- the 42.5, to 42.5 gigahertz, we can see very good prospects as well for this band, thanks to the fact that we don't have any other services on these bands, they are only in the upper parts of 1 gigahertz where we also believe for 46.5 to 43.5 gigahertz, we will anticipate great difficulties on the different systems. And the last band, 66 to 71 gigahertz, we see a major prospects for the unlicensed use of IMT technologies.

To sum up this position, this current position, we in the RCC believe that the 26 band -- 43 are 46.5, are bands which in our view are quite promising in terms of being identified and used the full introduction of systems.

With regard to the remaining frequently bands we haven't studied them yet but if there's time and need, we will look

into them and study them.

Thank you very much.

>> MATS OHMAN: Good morning, everybody, I'm Mats Ohman from telecompany. I have been working with the preparation for the conference and also -- or the vice chair of the GMSA future spectrum group. I will highlight why this is important for operators. What we have been seeing is an increasing demand for both capacity and bandwidth in our networks.

And at the same time, we see new services, new applications, some that are being developed, driving the bandwidth in the network. And that's why the above 24 gigahertz bands are very important for us, because we would like to be able to meet those demands, and without -- I would say without new spectrum, for dense urban areas, the IMT 2020 5G networks will not deliver what we expect of them. So these bands are very important for us to be able to meet those demands.

And at the same time, we are seeing, as I said new services such as, for example, one service was pensioned to me last week, was the 360 video applications which seems to be very, very bandwidth demanding and requiring a lot of bandwidth. We are only in the beginning of seeing these new services taking place.

Besides that, of course, we have the latency is and the reliability, the capabilities of IMT 2020, which would help with IOT application and it will also help us to develop application for industry applications for specific tasks in the network.

Both as separate application, but also in the public networks, we believe. Our innovation is that we could create a multipurpose network would be available for many different applications.

Coming to the bands then. So far from the mobile operators, we have mobiled three, we have 32, 42 gigahertz bands which have already been mentioned here, and the higher bands are still under consideration, however, I would say that the most focus is on the 26 and the 40 gigahertz. That's where the efforts are put in, and we are seeing a way forward.

And that's also has something to do with the harmonization and the economy of scale we can see for these bands, because we need as large market as possible for those bands and for the 26, we can see the similar, it is with 28 gigahertz which was not discussed here but is expected to be used in many places in the world, and we can see tuning range covering both 28 and 26, giving a possibility for more economy of scale for their equipment.

We also have, I have seen the same issue for the 34 and the 38th, for the lower part of the 40 and the upper parts of the 40 gigahertz where we can see the same equipment or similar equipment can cover both ranges and create an economy of scale for us.

And then for the employment we have had a lot of intense discussion on how this band networks was deployed and how it should be represented in the status, and how wide it be deployed. We see this in lots of bandwidth and not as a micronetwork rolled out in the full area. We can see that actually the geographical area, where they will be deare quite small, but it's very, very important to be able to serve those parts of the -- of our network. Without the frequency bands it will not be possible. But for the status, it's very important for us to understand that it's only a small part of the geographical areas that will be covered by those.

For the status then, I would like to make a few reflections. I have been following the WRC preparation since the conference 2000. This is quite interesting for me, and we started out with the same band in 2000. Some of the same bands in 2000 for fixed service. Now we are doing them for mobile, actually. And it's interesting. In general, I think the study results show very good progress and very good opportunities. We feel that most of the initial indications from the status are very positive and we see the possibilities to share between the services in, many many cases.

In some other cases, we have maybe -- we maybe have to introduce some limitations for the mobile service or some kind of techniques to enhance the possibilities to share but also it seems to be feasible in these cases.

I think we have one issue, the passive services where we have more discussions, and we need to find a way forward for doing that. But that's really the main obstacle I have seen so far. And I think we will be able to solve that as well.

So services, in my perspective is going very well and much better than I have seen in many other cases before. I think we are much better position this time.

And that's maybe due to we are now moving up in the bands and compared to other earlier studies done between mobile and comparable services we have better sharing conditions. We have much higher attenuation and we have higher collateral losses. The beam forming is doing a very good job to enabling sharing between services, actually, especially for the aggregator cases we are seeing.

And actually, my view, this is more like the fixed sharing

services because we have been formed communications and that shows in the results, I think, that the sharing possibilities are much better.

And that's maybe what I -- what I have to say. Thank you very much.

>> LASSE WIEWEG: Good morning, I'm lass Wieweg, I'm representing Ericsson, Nokia, Samsung and Qualcomm and under the umbrella of GSA where I'm sharing the spectrum group.

I would like to, I think I suggest we applaud ourself that considering from 1992, based on the footnote, the cellular mobile networks have developed over time. So in June, July time frame this year, we are entertaining 7.7 billion subscriptions out there. So I think that is, indeed, a tremendous success of ITU.

And also if you look at the situation, what we providing as mobile suppliers, is that we can support the continuing work within ITU, that we provide from our website database information and we also have reports and we have relevant reports now of 26 gigahertz band and also we have some 3.3 gigahertz up to 3.2 gigahertz which could be of interest.

We can also note that we are not only addressing IMT 2020. We are also addressing the fourth generation system and we can see that already now 6% of the networks are capable of delivering up to 1 gig abits today. So it is very encouraging for us now when we are moving into 5G and IMT 2020. We can see already that we have 42 countries and 81 operators that are investing in IMT2020 already and we can see that we have more than 40 trials in the frequency range of 26.5, up to 29.5, which falls within the frequency band that is considered under agenda item 1.13.

So it is also encouraging to see that the ongoing specification work, let's call them preliminary specification within 3GPP, which is already into phase one of its IMT 2020, delivery and in December this year, we will see the first face of IMT 2020 with this now standalone system coming out. And then in June next year, we will see also the second -- sorry, the first phase one, but also the 5G one, it will be standalone.

And then finally, we will have' specification, the final specification ready for 2020, IMT 2020 in December of 2019.

So we are well aligned with the ongoing work in ITU, and I will also say that within the GSA, we have mirroring the ITU structure. So we are having regional organizations that are ready to support the regional bodies. So we are looking forward to work together with you on agenda item 1.13. Thank you.

Stood Eduardo Marelli: I'm with the ESA. Luckily, a couple of years ago they found a more competent with my find from Marcus Dries so I could step out. Okay. So why -- why my agency as many others space agencies sore interested in this agenda item? Because most of the bands that have been identified for studies related to bands where we already operate our services.

Our services in the field of methodology, climatology, and all the fields of earth observation, including also space research. So these are things that are not for the benefit of an individual administration or even an individual region. The data we collect are made available to all countries. And so are of interest to all of them.

We know that one of the main issues we will have to tackle, hopefully we will tackle, is global warming, and even if there are still a few around, it is a major issue. And whatever your view of that, is the ostrich approach of hiding your head in the sand is not a correct one. So we need to have measurements. We need to have data on this subject. In order to have data, we have to have certain frequency bands.

Now let's focus in terms of bands on the 26 gigahertz that's clear from the previous invention. It's the most debated one and most interesting one for -- also for the IMT community.

In the end band, we have the band that we use, and we will pore and more use in the future, for downlinking all of our satellite data, the payload data to the ground. That -- in that area, we have done a number of studies. Luckily, from a technical point of view, the studies are converging which is good.

The exclusion zones that would be needed to protect the receiving stations are relatively small, and I believe that if we -- if -- what my friend Mats just said, that IMT 2020 is for mostly dense urban areas, urban areas in general and then we should be able to find a mote us operandi in this area. So technically, we are agreeing. I think we are convergent on this.

From a regulatory point of view, it will be important that whatever we define has mechanism, to calculate these exclusion zones around the station will be an agreed methodology, not something that's left to an individual administration to decide that. Is maybe something we still don't fully agree in TG5/1.

And then moving to the other -- I'm sorry, there is a third one, in fact. Another one in band that is related to the intersatellite service. On that one, the studies seem to indicate positive conclusions about compatibility.

Now let's move to the their one, the one that's already mentioned as potentially critical. And we have these problems not only at 26 gigahertz this problem not only on 26 gigahertz but on other bands. But the issue is similar. So the point is that as soon as we had at least -- at last, sorry, the specifications about the IMT 2020 in March of this year, we as European space agency and UNICEF made the very first studies and we came out with the indication that there is a major problem. A large problem. And also the studies that came later on in the other meetings after May, after the TG5/1 in May confirms, even if they were coming from other organizations not related to space science. And to give you a rough idea, we have indications from 19 to 35db deficit. So we are not talking about strapping one db here and there. It's a major issue that needs to be solved.

And what is making us nervous is the fact that we don't see any attempt to show that actually the unwanted omissions could be better. If -- let's say, if the missions were from the transmission of my compay tryiate, Marconi, we are talking about IMT 2020 and we have missions that are really compatible -- the transmission of my compatriot. Can we do anything better? We signaled this problem in May at TG5/1. We repeated that at the September meeting in Abu Dhabi.

And yet we don't see any reaction. I was waiting for some feedback from 5D, from 3GP P., the real mass, speck do better. It's something that would really bring something substantial to solve the problem.

So I'm less optimistic than others on the fact that this can be somehow solved. I have not seen an attempt to improve the characteristics of these unwanted transmissions and if we don't do that, I'm afraid the solution would be very, very different. You can think of guide bands but then you have to move how many gigahertz away from the edge, that basically emptying the whole band under study.

So once more, this requires an answer. We don't have so much time left and please remember that 23.6, 24 gigahertz, the band we are talking about, from IMT 2020 is the one used for water vapor. That's essential for all the methlogiccal measurements. Without that, we can't have any contributions for the methlogiccal forecast and we will have problems in climatology studies.

So please, pay attention to this. I'm addressing myself even more so the developing countries. They are the ones that face the brunt of -- of global warming that are more interested by the extreme methodological phenomenon. Now don't exchange this

for maybe some money in -- in -- that can come in from IMT.

So please, we appreciate the importance of IMT 2020 but not at the expenses of the other services. So please, I'm addressing now the IMT community. Please do something about these unwants omissions, otherwise, there will be a big, big discussion at the WRC-19. Thank you.

>> AARTI HOLLA MAINI: Thank you for inviting us to be here. My name is Aarti Holla. I'm with the EMEA satellite. We represent the satellite operators who provide communication services around world.

Of course, this agenda item is all about 5G spectrum, but for us, we feel it, in fact, represents a far bigger issue which is the huge demand for connectivity overall. And this goes beyond just mobile connectivity. It's also about the satellite ecosystem.

If I look at my members and the broader satellite ecosystem overall, we see a flood of investments going into high throughput satellites, even very high throughput satellites, NGSO systems, HAPS and so on and all of these systems are emerging in order to respond to the demand for connectivity which is increasing everywhere.

At the same time, it's also about the WiFi ecosystem. We see Y gig, the WiFi gigabit now emerging using the very high millimeter wave bands. So IMT is not the only radio communications technology that needs more spectrum. And given that the work of this task group is going to inform the CPM text, which will advise Member States and eventually lead to really important decisions, which will influence the development of all of these systems in the future, my members are very much engaged in this work. They are putting in studies, either individually or through Member States, showing that we can work together with other systems, other technologies, and showing that we are open to sharing where that is technically feasible.

In terms of expectations, we have three levels of expectation. The first is a clear understanding and decision that some spectrum, two by two gigahertz cannot be shared with IMT on a co-primary basis. It is needed for satellite user terminals that cannot be coordinated with 5G handsets.

The second expectation is a clear decision that the FSS service needs to maintain access to spectrum for individually licensed earth stations. This spectrum can be shared, but we require adequate protection measures in place, to make sure that we can continue to operate without interference.

In order for that to work, the incumbent users do also need

to know where IMT base stations are located, either through a database or some other mechanism that needs to be confined.

Finally, these protection measures need to recognize the risk as Sergey said, the aggregate risk from IMT base stations to satellite receivers. So, again we would like to see EIRP limits above the horizon as well.

We think that the progress is being made, but ultimately, it depends on good, solid, CPM text that reflects the outcome of the study and deliver regulatory measures to protect the incoming services.

We believe that given the complexity of the studies regulators should not rush. Of course all the parameters have been submitted to the group according 2089 deadlines that Cindy was mentioning earlier. We know that the IMT 5G parameters are being developed. And it must be based on consensus of the WRC.

>> CINDY COOK: I will come up here since my microphone has gone to the other end of the row. Philippe said I could have another few minutes. With, that I would like to see if there are any questions from the awence.

So see any. And so I will ask my panel because there were a few comments made, certainly from our stakeholder representatives, if any of you have wanted to reply to anything that the others had said.

So we are all in agreement then that we can figure out a way to share on all of this -- all of these frequency bands?

All right. Well, maybe I don't need the ten minutes because I think everyone has had an opportunity to express themselves and I think we have had some good view points expressed and certainly from our stakeholder representatives, about what they think about the status of study so far and the additional work that we still have to do within the task group. So I would like to tea the opportunity to thank everyone who was on the round table for coming and giving us their views and what the preliminary views are within the various groups so far and then as well within our different stakeholders.

So thank you all very much and I will hand the podium back over to Philippe for the next session.

Thank you.

(Applause).

>> PHILIPPE AUBINEAU: Thank you, very much, Cindy and thank you very much to all the panelists who provided, I think very useful information for of the understanding of the issues behind the agenda item 1.13.

I guess several panelists will stay with us for the next round table. I will, however, call upon the chairman, actually,

Mr. Stuart Cooke, who is representing the Working Party 5D chairman, to conduct the next roundtable. They look at issue 9.1.8, under agenda item 9.1. This is to look at machine type communication and Mr. Stuart Cooke, would is behind me now is ready to continue this round table for hopefully 20, 25 minutes. I forgot to have good news and bad news. The good news is that we can continue until 12:15 at least and bad news, of course is that we will have less time for lunch, because we will resume at the same time as scheduled, 1:30, but I will come back to that at the end. Thank you.

Please.

>> STUART COOKE: Thank you very much. We will try to be as efficient as we possibly can. Good morning. And welcome to this roundtable session on machine-type communications or MTC.

And this covers both narrow band and broad band MTC, related to agenda item 9.1.8 and particularly the annex to the resolution 9.5.8.

There are a large of number of technologies and standards and frequency bands relating to MTC, standards organizations such the IEEE, the third generation partnership project, et cetera, are all developing various standards to address the very small kept needs relating to MTC. You may have heard of standards such as Bluetooth, Zigby, WiFi, Laura, Zig fox, LTM, extended coverage GSM, et cetera, et cetera. So lots of standards within those standards organizations, spectrum bands and it's made available in terms of licensed and licensed exempt spectrum.

And so relating to the ITU, within the ITU, we have a number of Working Parties looking at MTC, Working Party 1B, 5A, possibly 5C, and also 5D. And for the focus for this discussion, on behalf of Steven Blust who sends his apologize as chairman of the 5G, we would like to focus our discussion on the IM T.-related aspects for the MTC. We have trial networks and spectrums and this year according to the GSMA and the GSA, and the industry organizations we have over 20 IMT MTC launched and we have devices in the mark. We are now moving beyond the trials and the standards into commercial deployments.

And so, for the panel, so thank you very much to the panel for joining us this morning. I have two questions which I hope you are ready for. First question is: Are the current IMT harmonized frequency arrangements sufficient? Or do we need additional specific harmonized arrangemented for MTC? And depending on your answer, are any changes needed to the radio regulations. So two questions, are the current IMT arrangements sufficient and do we need changes.

So if you could introduce yourself. Over to you, thank you.

>> KYUNG-MEE KIM: Yes. Your first question we have sufficient current IMT identification for machine type communications. We didn't have any discussion on this issue, however, there were some proposals to make harmonization in a reasonable level to use the non-IMT-based frequency bands or -- and/or IMT-based frequency bands. So we covered most of them.

So I believe we may -- we may provide the communication by commercial networks because it gives some reliability, however, I believe the spectrum demands should be raised by industries, rather than regulatory aspects. So if there is no sufficient frequency bands within IMT frequency bands, they may be handled in harmonization, the harmonization within the ITU Study Groups because the APT members has preliminary views. The communications should be made in -- in the -- within the framework of ITU-R Study Group scope.

So I don't have enough time -- enough answer for your question, however, maybe the -- we can have a clear answer provided by APG. Thank you.

>> STUART COOKE: Thank you very much, and thank you for being brief about 9.1.8.

>> TARIQ AL AWADHI: This is another important agenda item within the ASMG group. We have submitted a proposal, to be one of the agenda items in 201. And we have been working on this one. Certainly, there are a number of bands and IMT has been identified for mobile services, but with regard to the publication or used for human or even for IoT. Now those bands in IMT and accommodation 20.36, it even can be useful in IMT or IoT application. We know that. But this is the recommendations where IoT or looking for harmonizations. Now, the ASMG group is looking for harmonization in the spectrum for IOT and all regions. Similar -- for the simple reason that our markets in the other regions is not that big like other markets in US or China or Europe. Others maybe you are not looking for harmonization with other regional groups but we are looking really to have harmonized band for IoT.

Now, maybe -- I know that in the Working Groups in the discussion of this one is still they are starting to see they have to be harmonized or not, but maybe we can say similar has been done and with similar application and has been done also a Recommendation 2015. So for hamonnized band on BBD R.

Now, coming back to your questions. Do we need to change anything, any regulations? Maybe we don't have an answer right now but that depends on the studies going on and where we can

have to reach an agreement on that one. The other is really looking for harmonized bands for IoT. Thank you.

>> NOSIPHO NTULI: Good morning everyone, I'm from ATU, my name is Nosipho Ntuli on agenda item 9.1.8. Working Party 5G is responsible for this item and 5A and 1 B., they are still doing their studies and we are following all the studies.

As for the questions that Mr. Stuart has asked, there is no need at the moment to identify the specific frequency bands that have been -- according to whatever we have started before, we can harmonize and frequency arrange other things that currently are used with the IoT and IMT in frequency bands that are available.

The harmonizations as well, wherever and whenever is possible of these agenda item. And for the rate of regulation I don't think we need to change anything at this moment, but depends on the outcome of the studies that we are following. We still have other meetings that will happen, and we have meetings at the lower level and then our contributions to add to. And then we need to consider that, as well as the other studies that are happening in the Working Parties.

And the supports righted by the GMSA and the outcome of the meeting that was held, that -- with the view that all the IMT bands shall idly explode and considered for all IoT applications and not toel cloud some of them, at least at the considerations stage, as well as we believe that some of them, at least other considerations stage, as well as all IMT potential have an equal potential to be used for part of the new IMT service offerings.

Thank you.

>> STEVE GREEN: Thank you. Thank you for giving us some areas to focus on in our responses.

CEPT is the main group looking at this issue under 9.1. But we are working with other parts of CEPT, because the focus of PT1 is on the IMT technologies but we also recognize that machine talk and communications can be provided by other technologies, and you mentioned a few of those, for example, in license exempt shared spectrum.

Now, where we are in CPT, right now, is we are actually -- we have been going through an exercise to hook at the existing IMT spectrum, and see whether there are any unnecessary barriers to the introduction of IOT, MTC type technologies in those frequency bands. And what, if any technical conditions are needed to -- and the industry respect, we published a report in summer this year, which looked at particular things like NBIOT in 900 and 1800, as well as usage

in other frequency bands of these LTE and GSMA-based technologies and where we are now going through the process of a revision of our technical conditions in 900 and 1800 to address things like stand alone NBIOT and it has the right frequency separation in wide band technologies to avoid interference. That's something we are already doing.

With the aim that network operators would have the nextibility on how they use this spectrum, so they can provide the regular voice and data services that the people know them for quite well over the past few decades but that they can introduce the new MTC-type applications into their networks, as and when they need to, and as and when they see this user demand for that.

So proceeding along that, we are also in other bands like the shared spectrum doing work on how to enable those and how to make sure that we know watt technical conditions are for those.

In regard to harmonization at ITU level, I think we are quite open to the idea of getting is some harmonization through the normal ITU structure of the recommendations and reports, and the benefits is that it can be quite flexible. It can be done as part of the regular ITU Study Group work program, and it can be quite responsible to when this is need to update that as we see happens with the regular IMT harmonization through Recommendation 1036. And as was mentioned through the PPDR, harmonization.

So that can be quite a good approach to follow. Whether there's a need to do anything in the radio regulations is different question. And, in fact, the most recent PT1 meeting, we have -- we have looked at the CPT briefly and we will propose to CPG that we take a line that says that we don't think there's a need for changes in the radio regulations for this MTC-type systems. That hasn't yet been ratified or considered in CPG. So it's still an open issue. But that's the sort of direction that we are recommending at least from our project team that we focus the harmonization through the regular ITU recommendations and reports.

Thank you.

>> LUCIANA CAMARGOS: Thank you. Good morning. This -- I'm very glad to be here for this panel because this is our first inter-American proposal, that we approved in Orlando in my group. And so, yes, we have an inter-American proposal for no change, and it says, the reasons is that the analysis of the current and future spectrum used for narrow band and broadband machine time communications concluded that there's no need to

identify a specific amount for those applications. Therefore no change to the radio regulations are regulatory action is required no changes are also applied to the radio regs volume -- apologies. Volume 3 apart from the suppression to parts of resolution 9.5.8. Yes, we believe in CITEL, we can do that under the current work of the ITU Working Parties.

We are following this in Working Party 5B and 5D and we believe no changes are required.

Thank you.

>> SERGEY PASTUKH: Thank you very much. Thank you for the question which was posed by our moderator. In the R. CC, this question was also considered in great detail, and we prepared a preliminary position on this particular agenda item. So respond to your question, we believe that the radio regulations are currently, essentially don't contain any mechanism to harmonize the spectrum. For machine-type communications.

Yes, in the regulations, there are frequency bands for IMT. They have been identified and to a certain level, we need to consider this as a manager that could harmonize, especially for machine-type communications.

However, IMT services is a -- it's a broad area on the one hand, and it includes not only machine communication but other things. Secondly, for IMT, there's a lot of bands, frequency bands used with UHF bands, up to band -- frequency bands at the conference in the 1990s, considered them at that time. And not all of these bands meet the challenges, which are currently being discussed for narrow band-type communication and broadband. Therefore, to respond to your question for the -- to the first one, perhaps no. But on the second question then, do we need to change anything in the radio regulations to then harmonize the bounds?

Again, RCC believes there is no need again to do so. And there are two aspects. Firstly, nevertheless, the radio regulations are not a means to harmonize something. They are regulations. Perhaps they can be used for this goal, but the main aim of the regulations is not harmonization as such.

At the same time, we have a very powerful instrument for harmonization, which are the recommendations from the ITU, and we can -- we also have resolutions of recommendations from the conferences. And they are not included in the regulations as such. So in our view, there are quite a lot of mechanisms already which can be used for harmonization and we believe they should be used to the maximum, because harmonization, of course, is of great use for the users, or paraders, providers and for the market as a whole.

Therefore, if just to summarize the position of the RCC region, on this particular item, well, changing the regulations here is not required. Harmonization should be carried out using the recommendations from the ITU, and recommendations -- and rather harmonization in this includes -- in this sense is very useful.

The last point in our position is that we, nevertheless, can see there were two types of network -- of mobile, rather, cellular, and then secondly, we can see non-licensed frequency bands.

And both of these approaches for machine-type communication are key. They are both key. So that we can both foster innovation and also to ensure that overall we provide good quality services of this type across various different areas. Thank you very much, indeed.

>> STUART COOKE: Thank you very much to the panelists. So thank you for your responses. It would seem that, you know, there are a lot of work to be done in the Working Parties. A lot of guidance will be required in those activities. Some of groups of various positions, either emerging or have emerged.

Given the time, I wonder if we have time for one or two questions before we wrap this up. Any questions to the panelists? Yes, thank you.

Yes?

>> AUDIENCE MEMBER: Good morning, ladies and gentlemen. Thank you very much. Good morning, distinguished panelists. I think the issue as we have heard from the panelists indicates that while we recognize the importance of the -- machine for machine-type communications, it seems that we start to think that perhaps we should take experience of the previous or past conferences of similar issues, when came to the conference first for the spectrum allocation and thennen up with harmonization and that end up with how to do the harmonizations.

One simple example of that was EMG and there are satellites and there are many other examples. It was recognized as good, but it was difficult and not necessary. So the important issue is that while recognizing, we try to find the best solutions. The best solutions as far as my country is concerned is to have, first, assembly resolution, asking ITU-R to continue with studies with the view to harmonize the situation.

Within the harmonizations, one of the tools and vehicles would an ITU-R recommendations. Once this issue is finalized, perhaps the results should be sent to the conference by assembly, other next assembly indicating the situation. The

conference may, in addition to the ITU-R recommendation, draft a resolutions conferences -- a conference resolution without being reflected in any footnote or any WRC recommendation recalling the harmonizations.

So perhaps we should tart to think how we can organize our work, and concentrate on those issues which seems much, much more difficult than the one that we have in hand.

Thank you.

>> STUART COOKE: Thank you very much for that comment. Any more comments or questions? One more before we wrap this up.

So I don't see any hands. Thank you very much to our panelists. I'm sure that this discussion will continue. But thank you very much.

(Applause).

>> PHILIPPE AUBINEAU: Thank you very much, Stuart. And many thanks to all of our kind panelists for very interesting information as well as comments from the floor. And now we will look at another roundtable which will be addressing the issue of the high altitude platform stations, the HAPS. So I invite the chairman of Working Party 5C, Mr. Pietro Nava, as well as representative from the regional groups to join us, and also representative from Facebook and Airbus, if you could kindly take your seat. So we will now start, I think, as we did before, with a short introduction of the chairman of Working Party 5C, Mr. Pietro Nava behind me. Mr. Nava, the floor is yours.

>> PIETRO NAVA: Thank you very much, Philipe, we will try to be short because I think we all need lunch. Dealing did HAPS. HAPS is on an object altitude of 15 to 20 kilometers. As such, they are considered to be part of fixed service. Today's technology is mature to support HAPS. Which are considered applicable to several situations, including the broadband connectivity in the remote areas, disaster recovery communication, as well as the support to usual broadband application in already served areas. Some have been indicated sometimes. While two frequency range has been Reemtly added to the potential interested frequency band, providing wider bandwidth than already existing one and allowing significantly increase of transmission capacity. As new application, HAPS are required to protect the existing services and their application, and not to impose undue constraint to the future existence of services.

To ensure these requirements some studies are necessary. The studies are reserved in agenda 1.14 and resolution 160 which has been aside to Working Party 5C within ITU-R. We have

started working on this point as we have currently available 10 deliverables as draft associated to the chairman's reports.

These deliverables deal with the CPM text, to HAPS, to the frequency -- to the spectrum needs and some sharing compatibility studies already started.

Just to given you an idea, the studies is not completed yet, but we are at this point well above the 500 pages. Also this agenda item is not very simple to be completely resolved.

After this introduction, I will give the floor to my panelists, and the order that you find on the agenda. Ms. Keer, you have the floor.

>> KEER ZHU: Thank you, Pietro. Good morning, I'm Zhu Keer, working one party of ax P it.

And my Working Party covers CPM Chapter 1 agenda items. And we met in July of this year of APT/APG second meeting and we had a chance to review the ITU progress on this agenda item and we received numbers of considerations on this agenda. And after the discussion, we developed our APT reviews by consensus, and you can find the exact text, our preliminary views in their communication document number 4, part 2. And here I would like to introduce our views briefly that the APT members respect the spectrum need studies undertaken in ITU-R. And while we are of the view that this study should take into account the already identified frequency bands, perhaps regarding the sharing and the compatibility studies of the HAPS and with the other services, it's emphasized to ensure the existing services, which frequency bands are located and also without any constraint to these services and we support the appropriate regulatory actions. And during the discussions, they were two key points raised and the first is 130. But we have not enough time to discuss this issue at the last APG meeting and the second issue is that we also noted that any possible revision may also need sharing and compatibility studies.

So our study progress in APG. Thank you.

>> TARIQ AL AWADHI: Thank you again. And good morning again everybody. This is one of the interesting agenda items in the Arab group. We have seen these. We look at this also in terms of the existing services or services of HAPS whether it's available or not. The frequency band has been applied for sometime ago. We haven't seen any such system using the HAPS. The frequency has been allocated for them a long time ago. And based on that, and how we are looking or how the network has already been improved in many countries, now you will find some countries they have not had mobile services or fixed services in different areas of their country. I mean with high speed

also, broadband is available, yes, maybe there are some areas, rural areas that are required to be enhanced. We are working towards that one.

The ASMG group they come up with the consensus with the position that not supporting to have any new allocation for HAPS in 2019 and these agenda items. And being of course, we look at it also to the overlapping with other agenda items. Maybe tomorrow maybe to see those overlaps of course we looked at that one and we see having no support for having HAPS. And we are also looking for asking what has been used right now for those frequencies, which has been identified a long time ago and how we might use it or not.

So this is the brief ASMG group with regard to 1.14. Thank you.

>> Good morning, I'm Jeremy Ilboudo. I would like to share with you the ATU position, focusing on item 1.14, and WRC 15 agenda. September 11 through the 15th at 2017, at Dakar, we had the second preparatory meeting for WRC, the upcoming WRC, and during that meeting, held in September of this year, the African telecommission union examined a number of the items to be on the agenda of WRC 15, and on item 1.14, a number of results were garnered and they were as follows.

ITU -- ITU focusing on development has identified a number of needs or broadband and this is given rise to new scenario of application. And also for the broad use of the HAPS station, high altitude platform station. This is a new technology that seeks to promote broadband in regions that heretofore have not been covered or only marginally and therefore the African telecommunication union is supporting studies for sharing and compatibility, if they can demonstrate that the HAPS and the existing and future services including services in the ebands that are being looked at under 1 about .13 and 1.6 of the world radio conference agenda that, they can coexist. And the African telecommunication union has also taken note of studies, sharing studies as presented in document 10 for the contribution of Facebook and 1.14 of the agenda, these are pertaining to the coexistence under 1.13 and 1.6 of WRC-19 and within the framework of the adjacent freaky is bands. ATU supports regulatory measures that are appropriate and pave the way for the use of the HAPS. This also encompasses the changes in the regulatory provisions that pertained to those bands that have been identified already and also identification of candidate bands going forward.

The ATU encourages the development of HAPS and has carried out a number of the tests in the African regions, in order to

test the strength and the durability of systems having to do with noise attenuation levels, and also I would like to share with you a position of ATU when it comes to the agenda for WRC-19. Thank you.

>> GERLOF OSINGA: Good morning. My name is Gerlof Osinga and I represent CEPT and I'm more than happy to provide you the status of CEPT, and a reference I would like to make to document number five, you can find the position and given to the small time frame that we have over here, I would like to point you to the availability of the draft CEPT brief which is available free online, on the CEPT website and that can also be found on the document number 5. Further it's good to note that the designated Working Party recently had its meeting and the outcomes have not been discussed yet within the regions.

I would like to mention a couple of issues and the concerns we have before touching the position to start with background. We hope to compliment all the technologies to deliver the broadband connectivity to underserved areas in the world, as well as to our applications.

It's good to see that there is a desire to seek better regional and global harmonization on this particular subject and it comes from the spectrum identification, perhaps. The spectrum requirements that indicate the existing HAPS identification would not satisfy the overall spectrum for guidance, perhaps. To accommodate these requirements, new bands are under study. In the recent meeting, which ended last week, Working Party 5C had a long and intense discussions on the HAPS studies. A real challenge to finalize these studies and objectives for this agenda item in the remaining time frame. CPT administrations are committed to providing inputs on this agenda items but currently all frequent bands are under consideration.

For the whole process, it's important to consolidate these studies and converge the views are finalized in the May meeting of Working Party 5C.

I would recap, there's a long way to go within CPT, we don't have yet a European common proposal. We have our primary position and I will just pick up some highlights out of there. Saying, of course, we are in support of this agenda item. I would like to take to encounter a couple of issues. Unlike the development and the requirements in HAPS and the fixed services and the associated spectrums. I would like to see that it's taken to protection in place in order to not limit the possibility to use and develop existing services in the frequencies that are assigned and where appropriate in the

adjacent frequency bands.

The new study of compottability are tape into consideration of the ITU-R studies. In the development of the spectrum needs it shows as I mentioned earlier that we cannot meet the overall identification with the current spectrum that's allocated.

The last point I would like to raise is that CEPT that any consideration of the frequency band, 24, to 25, to 27.5 gigahertz, under this agenda item should not limit the possibility to identify the band for IMT under global level and agenda item 1.30.

I believe a lot of work needs to do and we are in short time and I think that one of the concerns that we need to face.

Thank you.

>> LUCIANA CAMARGOS: Thank you and good morning again. For HAPS agenda item, it also falls under my group in CITEL, and we had preliminary views from administrations at this stage. We have not had proposals. So far we have received preliminary views from Brazil and the United States of America, but I have seen further documents for input for our meeting next week as well. So we will be looking to expand that. The administration in the region are participating heavily on these studies here in the ITU and they have existing services in these bands but it is at this stage preliminary views on the interest of this service. Thank you.

>> SERGEY PASTUKH: Thank you very much. I'm representing the RCC region, and their position on 1.14.

In terms of this issue now, I would like to note also that we have a preliminary position that has been prepared and agreed upon. However, it only covers part of this issue, linked to HAPS. That's the issue of spectrum requirements for HAPS systems.

In terms of assessing compatibility and conditions for the use of further frequency bands, work in the RCC and this area is ongoing. However, we haven't yet reached the required level so we can clearly set out a position on this yet.

Having said that, I would also like to note that on spectrum requirements, we believe that these assessments should cover the spectrum that has already been identified for HAPS systems.

Secondly, we support the idea that the footnotes in Article 5, which identify the bands need some clarification. So then we can enable a global and reasonable use -- reasonable use of HAPS. And possibly to ensure more broadband transmission of information.

Then the last aspect, we believe that the conditions which will be developed and adopted for HAPS systems Chunnel sure the

protection not only of those systems, that are working in services with that allocation in those frequently bands but also the application of fixed services, working also with HAPS systems.

One last point that I would like to flag up on this particular question, which has already been mentioned, that's the issue of frequency bands and how -- well, that overlaps with other issues, item 1.13.

At the same time, our region is less affected because these bands do not -- are not considered at Region 2. At the same time, nevertheless, we also are discussing this within the RCC, and we are drawing up position in such a way as we can discuss this if -- if need be.

Thank you very much.

>> CHRIS WEASLER: Good morning. Actually, I guess, good afternoon, looking at the clock. My name is Chris Weasler, and I wanted to thank the ITU for the opportunity to participate as an industry participant in this panel, especially alongside all of these regional leaders.

Earlier panels demonstrated the breadth of important topics that the world is focused on for this next radio conference, spanning lots of important topics from coverage to capacity, new services, existing services and this strives to enable back haul for underserved or unserved areas. So this is clearly one that's more focused on coverage and there are others as well. HAPS is a solution, next generation is another solution. And we think there will be other solutions but Facebook has been participating in this process since the last world radio conference, and we are happy to see good progress on HAPS.

So new broadband HAPS are designed to provide reliable high capacity back haul enabling broadband networks to bring high capacity or high speed connectivity to these areas that today are either unserved or underserved.

The existing spectrum identifications for HAPS are insufficient to support new broadband applications due to geographical and technical constraints. And so WRC-15 gave all of us the mandate to consider spectrums to be identified at the next conference and the international community has been working hard to do exactly that.

The business ecosystem around HAPS is growing steadily. Companies in Europe, the United States, China and elsewhere are confident that HAPS can deliver and are investing accordingly. Over the past few years, companies have discussed the opportunity with governments across the globe and there's a growing tangible interest in HAPS particularly among developing

countries that are likely to spend fit most from this technology.

The interest is developing into support for spectrum identifications at the next WRC. Administrations from Africa, Europe, Latin America and North America have already expressed views in support of regulatory actions that facilitate the use of broadband HAPS.

Of course, this support needs to be backed up with the protection of services that share the same spectrum, and this technical work to demonstrate coexistence is now largely mature. In fact, we have considered nearly 1,000 pages of sharing studies in the relevant Study Group, Working Party 5C in coordination with many of the other Working Parties. Various administrations have been actively involved in developing the studies. And we have one more Working Party 5C meeting to wrap up this work that is already very mature. At this point, our view is that the sharing studies and the compatibility analysis show positive signs that HAPS are compatible with incumbent and planned services.

We are also moving cautiously towards robust CPM text that achieves everyone's goals in a labtive manner being consistent with the -- collaborative manner being consistent with the best traditions here at the ITU.

The last thing that I will say from the perspective of companies that support HAPS as a connectivity, I can say that progress has been faster than we even expected.

For example, Facebook, together with our partners at Airbus announced a partnership to demonstrate the viability of HAPS as a connectivity platform which will be work that will be executed over the course of the next year. This will prove out the technology and the viability of the platform, but also help to stimulate other members of the HAPS ecosystem to develop commercial models, build infrastructure, and drive roll out generally. We are excited about this next step, and we will report back to the ITU, the progress and the results.

We won't hesitate to keep this group informed since it's you who needs to make the decisions on this important question of spectrum for HAPS. Thank you.

>> SERGIO BOVELLI: Good morning, everybody and thank you to the ITU for giving me possibility, to be present at this event. My name is Sergey Bovelli, I'm here today as a representative for Airbus. And I would like to present to you our view on this agenda item.

Airbus is one of the HAPS proponents, together with many other industry and administration. And we believe that HAPS is

providing a technology that which is capability to enable broadband connectivity in region and the developed infrastructure. And in the disaster situations by providing bark holding for ground infrastructure, and also complimenting other services like the one which are, for example, provided by satellites.

Airbus is investing in considerable resources to develop this technology and to make it available for commercial deployment right after WRC-19. And in parallel, we are preaching the work to prepare the agenda item and WRC-19 by assessing the spectrum needs for HAPS application and also performing sharing studies, supporting the work of -- the sharing studies to show the incumbent service which is believe it's an important point. And from the point of view of the spectrum and needs assessment, we have shown that current allocation alone cannot satisfy the needs for broad connectivity. And that through HAPS -- and therefore, additional spectrum is required. Additional bands needs to be considered. And we are also considering these bands in our studies.

We are very happy to see the progress that has been made within the ITU and through their contributions on my administration, and that we have seen at the last 5C, and the positive results of the output document and the sharing studies are really encouraging us that we are going in the right direction and that we will have the elements to have a discussion at WRC and provide the adequate regulatory action for this agenda item.

Airbus is developing the new generation of its HAPS platform which is called Sophia and we improved the capabilities which has been already showed successfully in earlier -- in the past during several flight trials and as anticipated by the Facebook representative, we recently announced a joint effort of Airbus and Facebook to demonstrate the capability of HAPS and to show that HAPS is able to provide broadband connectivity by performing flight trials which is are currently planned to happen until quarter four in 2018. So next year. And as Airbus, we will show the capability of our platform to be operated in the stratosphere, and to operate this platform during an extended time frame.

So thank you.

>> PIETRO NAVA: Thank you. Can you hear me. Thank you very much to our panelists, the representatives of regional representatives and the industry. I appreciated the panel. I have space and time for maybe one question. Is this any

question to be submitted to our panelists. Egypt you have the floor.

>> EGYPT: Thank you, Chair. And good morning, everyone. It's first time I take the floor. So I would like to thank you for this kind invitation.

I would like to say something about the position of the Arab region. The Arab region is not to be supportive of this resolution, as we see it. Yes we have to take into consideration major points. The most important one being the sovereignty of states. States and countries are the ones that are responsible for a spectrum allocation and they have to give the approval -- this is very important for us, sovereignty of states in this part.

Second, we need to take into account the issue of navigation, nights and navigation, because arriving civil aviation, we need to take into account the components because we will seem like a target under our screens. It will look for us as/that is the point underneath our screen and it's a target for us. So we have to take in account this issue, because it will be considered as a decoy for the flight controllers and this is well known to everyone, especially those would are specialized in radar technology.

Second or third point, regarding the Working Parties that are making studies on this point, I think that they have to study as well the incumbent existing services as well as the future services on the same frequency band.

This is especially in border areas. I mean, on the border between two countries within one region, for instance. They need to study that as well in border areas between Region 2 and the other regions. And the radio communication sector is called upon having those studies at the regional level and at the international level. So we have to take into account the countries within one region, as well as this region, Region two and other regions. We need to take into account the existing services in the current studies.

In is a very important point and it has to be taken into account while formulating and adopting studies. So I repeat sovereignty of states, as well as importance of civil aviation. Thank you, Mr. Chair.

>> PIETRO NAVA: I ask you for more one.

>> I'm with the European space agency. The first one is reference was made to existing identification. Now, if I read correctly, the radio regulation, this existing -- most of the existing identifications are limited to a few countries. It would be important if this -- the idea is to use this

identification to consider that this is the result of studies made at previous conferences where there were problems compatibility.

It's not automatic because there is a footnote with a few countries involved that this implies that there is compatibility and therefore this can be extended to a generic identification.

And the second question is: Why -- considering the complexity -- sorry, of the coordination -- I'm sorry, of the compatibility, it would be much simpler if the HAPS community could identify per frequency band on the study, one direction only. This idea that the new frequencies or even the old ones should be usable in both direction, is creating additional problems that would be unnecessary in the compatibility studies. So why does not the proposal say, for the 26 gigahertz, I tend to only use it in the download and the 31 only use it in the upload part.

That would at least eliminate a few problems in the compatibility studies.

Thank you.

>> PIETRO NAVA: Thank you very much. Iran has asked for the floor. I think you have the last question, otherwise our microphone will be turned off by the Secretariat.

>> IRAN: Thank you chairman and the panelists. The new HAPS is entirely different from the old HAPS. As a new objectives higher speed, higher bandwidth and so on and forth, so we should not mix up with the old HAPS. The issue of HAPS has nothing to do with the sovereign right of countries. No one put the sovereignty of any country into questions.

I think we have to care. The issue raised by ESA. It's very good that ESA propose contributions today. The protection of the existing services are very extensive being discussed. There's no result yet, but are being discussed more than any other group. So I think the issue is under study. However, one point I want to make. It's not one distinguished panelist. We are a little bit far from being major. So we need more efforts and more concentration and more collaboration, that's why Chairman, you have created this email reflector. So answer the people talk to each other before coming to the next meeting and perhaps we need to slightly change our method of working in order to achieve objectives. Thank you.

>> PIETRO NAVA: Thank you very much Iran and ESA and the panelists from regional and industry. I thank you for being so patient and staying here right up to 12, 25 at this point and thank you very much. I give the floor back to Philippe.

>> PHILIPPE AUBINEAU: Yes, thank you very much, Pietro, and a big thank you to all the panelists. I think we can applaud them one more time and also many thanks to those in particular. Thank you for the chairman of 5/1, 5D, and of course Working Party 5C, who helped me to organize these sessions this morning.

And now that we are getting to the lunch break, I would like to simply announce that we will reconvene at 1:30 this afternoon. We will consider with other terrestrial issues that are dealt with, first in Working Party 5A. We will have the chairman of the Working Party 5A with us and also next will be the session on Working Party 5B issues. And we will have the chairman of working 5B with other panelists as well.

I thought there was a request from the floor. Yes, please go ahead, GSMA.

>> GSMA: The we would like to invite everyone for lunch to be held now in the ground floor by the registration desks. So come join for some food.

>> PHILIPPE AUBINEAU: Thank you very much. I hope you all heard something. I see you at 1:30. Thank you very much again.

(lunch break)

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>> PHILIPPE AUBINEAU: Ladies and gentlemen, we will start the afternoon sessions in two minutes. If you could please take your seat and in the meantime, I invite the panelists for the first roundtable on agenda item 1.16, the wireless access issue forward. So then we can start in two minutes. Thank you.

>> PHILIPPE AUBINEAU: So good afternoon, ladies and gentlemen. Thank you for being back on time for this second session of the workshop. As mentioned on the screen, we will now start the roundtable on agenda item 1.16, and we will have the pleasure to welcome Mr. Jose Costa, the chairman of Working Party 5A to moderate the session of this afternoon. Thank you.

Please, Jose.

>> JOSE COSTA: Thank you very much, Philippe.

So in this session that will last one hour and ten minutes is devoted to Working Party 5a, the agenda items that are under the responsibility of Working Party 5A. There are three items, 1.16, 1.11, and 1.12 and also 1.9. We decided to not include 1.1 because it's limited to Region 1. We can entertain a question about 1.1 and the time is more equally divided. Now here we have the round table for agenda item 1.16 and also issue 1.9.5 under agenda item 9.1. The other thing I plan to do is change the order. In this session, just no keep all of us awake. It's after lunch. And hopefully I will not make any mistakes, but we'll start Region 1, for groups -- Region 2, Region 3 and then for the next roundtable we will start with Region 2 and Region 3 and Region 1 and the final 1.12 will be region two, Region 1, Region 2. Okay?

And for this first one, on 1.16, I wasn't able to get any representative from the industry. I asked the European space agency. They said no, no, we cannot come. I asked also the WiFi association in North America, they said no, no, we cannot come. So I think things are clear from the industry perspective and I think what is remained to see is the views of the regional representatives. Agenda item 1, as you know is RLAN in 5 gigahertz. It goes from 51.50 to 59.25. It's not included there. It is a part which is not included. But anyway, the studies are going on. You can see the status in Working Party 5A in these slides that will not be presented. It's number -- it's number 24 and 25. 24 is for agenda item 1.16 and contribution 25 is for issue 9.1.5.

There you can find the status of Working Party 5.5, including the links to the annex to the chairman report from the meeting that finished last week. We have preliminary draft text for all of these items and work plans and also associated working documents for -- for supporting this. So one of the motivations for agenda item 1.16 which is given in this r solution 239, we need 4.55 to 5.80 have already been identified. So we still need more, 345, and perhaps there is a need for more allocations to move on, they are relaxing some of the requirements in resolution 239.

I don't want to say more. I want to pass the floor to the speakers. We will start with Region 1 first in alphabetical ordinary. ASMG, the representative Tariq Al-Awadhi. We should finish before 2:00. Is that clock right?

>>> I am from Saudi administration and I'm chairing Working Group 4 in ASMG group which is related to agenda items assigned to Working Party 5A.

With regard to agenda item 1.16, which as the Chairman just

mentioned which is about the -- the -- RLAN and the frequency between 5.190 and 5.920, the position of the ASMG, based on the last meeting of ASMG in last April is to follow up the study and not support any identification of the new frequencies for the WSA RLAN, unless the study shows that the possibility -- there is a possible chance for coexistence and sharing between the current surfaces.

Also the other point is to ensure the protection of the existing surfaces without adding any new restrictions on them. Thank you very much.

>> JOSE COSTA: So no we go to representative from ATU, Mr. Baxton Sirewu.

>> BAXTON SIREWU: ATU is in a preliminary no change position for all the bands, although, we have some administrations which we offer the view that since we have a footnote 5.4 -- 4.53 of the regulations, which allocate the 257, and the 8.85, from the 9.25 to the fixed and mobile on the primary basis and that -- when you look at, it the -- you would think this footnote, there's administrations which have done these allocations and out of the 47, 18 of them are coming from -- from Africa. So it's something that we deliver on that discussion, though our preliminary position is no change. We are taking that footnote into consideration and going into our next meeting, APM3 will come up with a refined position for Africa. I thank you.

>> JOSE COSTA: Thank you very much. We go to CEPT Alexandre Kholod.

>> ALEXANDRE KHOLOD: Thank you very much. I am Alexandre Kholod, I'm chairing the CEPT that has been assigned this agenda item, 1.16, as well as other agenda items that will be on the scope of this afternoon.

Agenda item 1.16 and resolution 239, leaves four different frequency bands in 5 gigahertz. So far the CEPT has come to stable conclusion with respect to the band 53.50, 54.70 megahertz. In particular, it supports to changes to the regulation, as far as this band is concerned.

Going through other bands, we haven't come yet to a really clear conclusion, yes or no, and the status is still ongoing, giving you more details about this -- our position. With respect to the first band, 51.50, 53.50, similar to what was done by Working Party 5A, we split the range into 200 megahertz each, recognizing that there are different radio services in different parts of this range.

However, for the whole range, for the time being, the CEPT would only support the operational condition for L1. It can be

demonstrated through the compatibility sharing studies that the services are protected and this includes radio negotiation, et cetera.

Going up with the range, the next one will be 57.25, 58.50 megahertz. CEPT would also support allocation of this band to the mobile service with a view to accommodate the use for RLAN unless it shows the compatibility and the protection of existing services. We are still discussing our position how we should have it with respect to this band.

And the last range, the scope of this agenda item is 58.50, 59.50 megahertz. We recognize that it has highlighted some difficulties in ensuring the protection of existing services like FSS, as well as the existing application, it was a mobile service like ITS, in these systems.

Therefore, we are still discussing the -- whether we should support this band for RLAN or not.

I think that is it at this point.

>> JOSE COSTA: Thank you very much, Alexandre. Sergey Pastukh for RCC, that completes the four region one groups. Please, Sergey.

>> SERGEY PASTUKH: Many thanks. Thank you for giving me the floor and an opportunity to present a position taken by ICC countries on this question. Our position on this question has taken shape by now, and to a large extent it is identical compared to what we heard from other representatives of Region 1.

On the whole with regard to all four frequency bands that have been considered here, the situation is that the methods of ensuring interoperability for RLAN with radio navigation systems do not result in interoperability. That's why we are on our locales to the new methods being suggested. The new methods may improve the interoperability of our RLAN systems with others and if such meant odds do come to the fore and prove themselves efficient.

In that case, we may change our position with regards to our attitudes to other systems in these frequency bands. Currently, I would like to reiterate all studies have shown that it is either very difficult or impossible to ensure interoperability. That's why they position this -- on the question has remained as no change. Thank you.

>> JOSE COSTA: Thank you. That completes Region 1, and Dr. Brian Patten, could you give some words about Region 2.

>> BRIAN PATTEN: Thank you, Jose and good afternoon, everyone. So in CITEL, we do not have any proposals on agenda item 1.16, but that does not mean that there's not a lot of

work going on, nor does it diminish the importance of the agenda item. Certainly in CITEL, there's a lot of discussion going back and forth between administrations. This is a very difficult item for all the subbands but the studies are progressing. Also I mentioned in Working Party in 1A, certainly CITEL is in the technical studies but we don't have a proposal yet in CITEL. We do have some preliminary views. The three preliminary views which can be found in slide 14 of the slide set, on slide 25, we have used from Brazil, Canada and Mexico. They all have a common theme, which is they support studies on these bands which we should all support studies.

Brazil has the caveat and reminds us that they would like to see C band uplooks and the protected services in the band. Canada notes that they would prefer that the study stay within the bands that have been laid out in the resolution, resolution 239 and not wander outside those bans. So not the entire 5 gigahertz band. And finally, Mexico, they support studies as outlined in resolution 239, but they note that the mobile service allocations, in any, are taken into account the ideas of spectrum saturation and growth protections in this agenda item.

So that's what we have in CITEL so far, and I certainly can Jen tape any questions if you would like. I will turn it back over to Jose.

>> JOSE COSTA: Okay. Thanks very much, Brian. So last but not least, Region 3, the representative from IPT is Dr. Kim. Dr. Kim, please.

>> KYUNG-MEE KIM: Thank you. Agenda item 1.13 is one of the interest agenda items within APG. We had the discussion based on the contributions and there was some consistency on the protection of services. So those were parts sent to the APG preliminary views and among our proposals, -- there's some proposals supporting the band or opposing bands. Those are views and not agreed by APT members and these views included under the part -- the section of other views. And then I would like to read the APT preliminary views so far. APT members support the studied being conducted in ITU-R in accordance with resolution 239 and APT members are of the view that incumbent services including the current and planned use, 51, 52, 53, 53.52, 54.70, 57.25, and 58.50, and 58.52, and 59, this should be no constraint on these services. This is the APT preliminary view so far. However, it would be very useful to deliver informed -- to inform the different views other than the preliminary views.

There is some APT members do not support the allocation of

the band 53.52, megahertz to mobile service and the use of WAS Ireland in the band of 53.52, 54.70 megahertz, unless the resource of ITU studies shows that sharing compatible can be existing services.

Second part, some APT members support the band of 57.25 to 58.50 megahertz taking into being the regulations and 55.53.

And the last one is, some members are of the view that it could be desirable to consider the operation of WS RLAN. So at the -- at this meeting we focus on narrowing down the different views and we will discuss. Thank you.

>> JOSE COSTA: We have about five Min units for questions from the floor and the panelist. Anyone would like to make a comment or ask a question? Perhaps the member from the industry. We don't have industry representatives here.

If not -- yeah. Iran, please.

>> IRAN: Thank you, Chair. Thank you distinguished panelists. In the absence. Any volunteer, I just put -- or pay attention to the laugh point made. With respect to the use of any part of this band for outdoor application. This is some issue this his extensively discussed and are we need attention to that. That's one point.

The other point in that experience in ITU indicates that any objections to a particular applications or spectrum needs narrowly based on the interference analysis. It means that, Jose, everything is on the shoulder of your Study Groups, the Working Party, to indicate the compatibility analysis. You need to pay attention and try to work between now and the next meeting and try to have something that indicates that in particular band sharing is possible and also we should think of the matter unlike the IMT is not necessarily worldwide applications to look for the regional and other part of the applications and respond to the needs and the requirements of membership.

Thank you.

>> JOSE COSTA: Yes, thank you for those comments. Working Party 5A is doing a lot of sharing of studies on this band. There are eight documents we progress. Seven working documents and one study which still remains to be seen. Those are all referred to in the slides and it's number 24, I believe. Yeah, number 24. You can find the links and you can find the work in progress in Working Party 5A. Is there any other comment or question about agenda item 1.16 or the 9.1.5 issue?

If not, perhaps we could save some time and move to the next party. Please join me in thanking this panelel in this round table.

(Applause).

So we will take a couple of minutes to change the panelists now.

Guys, we did 1.16 and 9.1.5, you lost your chance. Is anyone wishes to say something on 9.1.5. We still have two minutes. Either here or there. No need to rearrange the seats. 9.1.5. Any question or comment. Alexandre, you asked for it. Say something. You.

No, I don't insist. I thought you wanted it. We are missing Thomas. Thomas Chatelet, please join us.

So agenda item 1.11, has a lot of activity in Working Party 5A. The group is chaired by Mr. Bill Lu who is here with us here. And you can find the relevant documents in this slide package. There are thanks to the chairman report, to the preliminary draft CPM text. There's one draft recommendation being the lag on frequencies for accommodations of frequency. There is also a report on ITU usage that includes the responses spectrum for railways. The report on the description which was approved by Study Group is the description of railway systems and architecture and so on. And that is report number M24-18. You won't find it posted yet but that's how it was approved, report ITU-R m.2418 and you will find the link to the document number.

So the whole purpose is to harmonize the frequencies for the railways. The railway systems for train to track side. And without taking any more time, now which is the order, we will start with Region 2 and then Region 3 and then finally Region 1. So Region 2, our representative from CITEL is Dr. Brian Patten. Brian, please start.

>> BRIAN PATTEN: Thank you again, Jose. And good afternoon, again, everyone. In CITEL, I'm pleased to report that we have a DAIP on this agenda item. I get the backup to talk about two DIAPs. DAI Ps this is where a proposal has brought in that more than one country has signed on to the proposal but not more than 6, when we reached the threshold of six and all the other rules that can become an IAP but we have a DIAP, and you can find it in document 14. I believe it's on page 48. Canada, United States, and Mexico have proposed basically no change for this agenda item. Now, that's no change to the radio regulations, volumes 1 and 2. That does not preclude that we support work in the ITU-R under the Study Groups, the technical Study Groups to come one reports and recommendations. That could be regional and global harmonization.

And really, that's what it all says for agenda item 1.11.

>> JOSE COSTA: Thank you, Brian and now Region 3. The

representative for Region 3 is Ms. Zhu Keer.

>> KEER ZHU: Thank you, Chairman and good afternoon, everyone. And I think this agenda is quite important to regions 3, as you may still remember, it's Region 3, brought our common proposal to the WRC-15 to propose to establish this agenda item. And with the support of other Member States we now have this resolution 236, which facilitates their global or regional harmonized band for the ISDT. So we have quite a lot of studies and not only included this APG studies on their positions and the views on agenda item. We also have some technical and operational in our APT which is in another work program. And during the last APG second meeting, we had discussed this agenda item and reviewed all the study progress in ITU-R, and we realized that it is quite important for the next of next APG meeting to consider which frequency bands to be harmonized at least in our view of the regions 3, and also that we are encouraging the APT Member States to consider which methods to satisfy this agenda item.

And at the last meeting, we also reached the APT preliminary views on this agenda. Of course that APT members support the study towards global or regional harmonized frequency bands within the existing mobile service allocations.

And we also realized that the implementation of harmonized frequency arrangements of ICT shall not impose additional constraints of other primary services to which these frequency bands are already allocated. And shall minimize the potential interprettance of the mobile service applications or systems already identified or deployed in these frequency bands. And also that we are quite open for discussion of all the relevant technologies and we are of the view that ITU-R studied should not preclude any particular event technologies.

And also that we realize that in order to provide an effective railway operations, when implementing and harmonized the frequency arrangements of ISDT, and so we believe the railway transportation is quite important for the development of economics in our region, and we are continuously and participating in the ITU-R studies and we are looking to have more progress in the next APG meeting.

>> JOSE COSTA: Thank you, Zhou. We will start with ATU, and their representative from ATU is Mr. Admire.

>> ALI AL HADJI: I'm Ali Al Hajj of Cameroon. I represent ATU at this session and I'm a rapporteur for 1.11 from ax TU. ATU has sent out a questionnaire to its Member States in order to identify pom bands eligible for railway systems.

There is also this questionnaire for an update and submitted

to Working Party 1A. There is the Study Group 5 of ITU-R and the questionnaire and its results are on the website of 5A, Working Party 5A.

At the -- by the end of of the second preparatory meeting, in September, ATU has supported the global and regional rollout of a railway communication system on the condition that that would not bring in additional limitations to existing services already identified services in this band.

And ATU fully supports the ITU and encourages the members to take an active part in the compatibility studies in order to ensure the protection of existing services. And the same way we wish our members to continue studies in 308, 205 megahertz in order to facilitate the existing studies and all the studies that have been conducted.

With the view for harmonizing this band for a railway communications system. Thank you.

>> JOSE COSTA: Thank you Mr. Hadji. Apologizing for using a different name when I introduce you. I was still looking at the other panel.

So next we go to Alexandre Kholod.

>> ALEXANDRE KHOLOD: Thank you again. And good afternoon again. Within the CEPT, we support the studies under this agenda item and we support harmonization of frequencies for use by railway ratification system between train and track sides. In this respect, I could note or CEPT notes that we have already achieved a certain level harmonization on the regional level where he with have trained radio RST based on technologies.

Also recognizing that under this agenda item, we are looking for the frequencies into the mobile service. We are of the opinion that no changes are required to the radio regulations to resolve this agenda item.

Instead, we are working also hard contributing with the contributions to the work of ITU-R, in particular 5A, because we believe that harmonizations, on the regional or globally can be achieved through the development of an ITU-R recommendation that was at least the frequency ranges that can be harmonized on the regional or global level.

Thank you, Mr. Chairman.

>> JOSE COSTA: Thank you Alexandre. Now RCC, Sergey Pastukh, please.

>> SERGEY PASTUKH: Thank you very much, Jose.

With regard to item 1.11, the RCC countries have also considered that item as one of the questions targeting the harmonization in the use of various applications, in this case,

it's railway applications.

The question of harmonization for railway applications in RCC countries is fully supported. That is, we see all the necessary grants to strive for a more homogeneous model and to bring down prices, as well as to achieve all the other benefits from such harmonized market.

The second consideration is which frequency bands need to be harmonized. Here we have two different positions, which we have agreed at our regional group. The first one is that harmonization needs to proceed in mobile services bands of which have already been allocated. And so already registered. So we do not expect any new distribution of frequencies under this item of the agenda.

The second position is also quite a traditional one is that any harmonization to be achieved should not infringe on the rights of services, already existing services and the frequency bands. In other words, harmonization should not to a situation where we find ourselves unable to develop any further applications in other services, except mobile.

And so the final consideration to do with harmonization is what would be the most optimal form for such harmonization? Radio regulations, the radio regulations, conference resolutions, or a recommendation developed along the normal lines of procedure for Study Groups.

In this respect, the position of our RCC countries is that we see harmonization through the adoption of recommendations and reports by ITU-R.

Thank you.

>> JOSE COSTA: Now the mer is Mr. Mohamed Al Chinabi. I don't know if I pronounced your name correctly.

>> With regard to 1.11. The trackside and the rail, actually a lot of discussion was happening in the last ASMG meeting with regard to this agenda item since many railway projects are going on. New railway project has been going within some ASMG countries. So find and reaching harmonized band is very important. for the radio communication system. The position based on that is to follow up the study about the railway system, between the train and trackside within the current allocations of the mobile surface. There the thing is to encourage the ASMG administration to identify the spectrum requirement for -- for railway system, railway radio communication systems in order to suddeny it and have more clear vision in the coming vision of the ASMG. Thank you.

>> JOSE COSTA: These are the regional representatives and we have one industry from the eastern railway administration.

Thomas Chatelet. Would you like to give us some worlds, please.

>> THOMAS CHATELET: Thank you. Thank you very much, Mr. Chairman. I would like to thank ITU-R for providing the opportunity to be there and personally, thanks to you for inning me to be present today and I'm here representing the sector from the European region and working for the European Union for highway, which is a technical advisor with regard to the topics and safety that are two main pillars of the development of the rail aspects in the EU.

And within the European Union, there -- it's called EHTM system. This is the European high traffic management system. It's for the passenger and goods across EU. It's a system composed mainly of two components, a system called ETCS, and radio communication component that is the GSMR as mentioned by Mr. Kholod. It's a system that is adopted by all the Member States in the EU. It's supported by harmonized spectrum.

It's a system that will at some point in time become obsolete, and several projects are already ongoing to define a successor. To be in a position to support further digitalization of radio applications and supports by radio communication, several techniques are considered and several spectrums are considered. I'm grateful to stress or to emphasize the position of the railroad where many investments have been done already and there is the willingness to use to the largest extent those infrastructures already ready. The successor system will allow to continue the deployment of ETMS and also to introduce new railway applications to support the future digitalization of the railways.

So once again, thank you very much, Mr. Chairman.

>> JOSE COSTA: Thank you very much, Thomas. So that concludes all the panelists in this, for agenda item 1.11. We still have seven minutes left. We don't have to take them. We can talk more about ITS if required but I would like to invite for any comments or questions that you may have. Yes. Iran, please.

>> IRAN: Thank you, Chair, and the swished panelists. Yes, it's an interesting agenda item coming from APT regions.

I think the result of discussions what we have heard he seems that there is some sort of direction toward the type of harmonizations, whether regional or worldwide and so on and so forth. The larger is better, but at least in the absence of the larger also the regional one works.

The question now is concentrated on the conditions, the conditions and the circumstances and the terms of that -- that lies within the results of the studies compatibilities and so

on and so forth. This is this one.

Now the third question is that where you indicate that and what is the vehicle? There are two vehicles we mentioned. One is more or less, the ITU-R recommendations.

The other was mentioned by WRC resolution. So you need to consider also if everybody agrees that it should be reflected in a vehicle, what would than vehicle and what is the advantage and the draw back of each. They are not exactly the same level. There's different advantage and disadvantage. This is an issue raised at previous conferences many, many times. Should we have results in the ITU-R recommendation? Not incorporated by reference or should we have a WRC we solution. The WRC resolution are not treaty materials. So they are not legally binding, but there are some other binding, one of which would be I would say morally binding. So that is an issue, because looking to that one, the advantage. So the food for thought for your next meeting. Thank you.

>> JOSE COSTA: And you seem to have describe method A and method B in Working Party 5A. One is no change and the other is WRC resolution. Indeed, you are right, we will have to discuss it in May. Thank you very much.

Any other comments?

If not, please join me in thanking this excellent panel.

(Applause).

And now we will rearrange the speakers for the last panel of this session, which is agenda item 1.12 on ITS and this time, we will start with Region 3 and then we'll go to Region 2 and then Region 1, again, skipping the speakers. Hopefully, I will not get mixed up.

Okay. Thank you. So let's start. We will have 20 minutes. Agenda 1.12, 1 about the 11 is for trains and 1.12 is for transport. And it's Working Party 5A and what I would like to get is an opportunity to the speakers to present the regional views and also we have a representative from the industry, Mr. Neils Andersen from car-to-car communications. Let's start with regional 3. Ms. Zhu Keer, could you give us a statement.

>> KEER ZHU: Yes, this is a quite similar situation, also in Region 3. Because this agenda item was proposed by Region 3. And we had actually the studies quite a long time ago. Just before the WRC-15, and now we have this discussions in the APG second meeting and we noticed that they are there to band, basically used by the Region 3 countries which is 57.52 and 58.50 megahertz and 58.50, 55 to 59-25 megahertz, a portion of the bands. So these two bands are using by the APT member countries. So this is a basement for our future discussions,

for the possible bands to be harmonized at the next meeting and also we are considering and actually some of our Member States contributed to the 5A studies on the possible methods to satisfy this agenda item as well. And I think that currently we also mentioned when we discussed the technologies related to the evolving ITS so two major technologies were considered and we are looking forward and maybe the next meeting we will see more progress on the possible methods to satisfy this agenda and we may have procress on the bands to be harmonized as well.

>> JOSE COSTA: Thank you Mrs. Zhu. And we go to Region 1. We will start with CEPT this time. Alexandre, please.

>> ALEXANDRE KHOLOD: Thank you, Jose, for the third time now.

Yes, you mentioned to yourself that this agenda item is very similar to agenda item 1.11, both transportation issues and here the CEPT has similar view on how to resolve this agenda item as we have also for agenda item 1.11. In particular, of course, we support harmonization of freaky is used by evolving ITS and, again, we have regulatory framework for ITS based in Europe. One of them is similar to what we have around 5.9 gigahertz and also recognizing that under this agenda item, the frequencies for ICS needs to be in the allocations for the mobile service. We are of the opinion that no changes to the radio regulation is required as far as the solutions, method for this agenda item is concerned.

And, instead, the development of a recommendation and if necessary ITU-R report could be done within ITU-R Study Groups, particularly Study Group 5, and 5A in order to provide for regional or global harmonization for ITS. Thank you.

>> JOSE COSTA: Thank you, Alexandre. Now we go to RCC. Sergey, please.

>> SERGEY PASTUKH: Thank you very much, Jose. Yes, indeed, this item 1.12, just the preceding one target harmonization of the spectrum and much of what I said on behalf of the RCC countries on 1.11 also applied to 1.12. We are of the belief at the moment that the most appropriate form to harmonize frequency bands for ITS is a recommendation -- is a recommendation of ITU-R.

Secondly, we would also like to point out an important aspect to deal with the existence of several standards, which we understand are mutually incompatible, mutually not interoperable in a single frequency band, which raises a number of additional issues here under this agenda, that we believe all of them need to be tackled within the normal procedure of Study Groups.

And we do not believe that change in the radio regulations are at least at present stage.

And finally, this item is very important from the point of view of harmonization and so RC C. Member States believe that harmonization is sequitur non. Thank you H.

>> JOSE COSTA: Next we go to ASMG. And the representative is Mr. Mohamed Al chinobi.

>> Thank you. With regard to, we think in ASMG, it's go to have harmonized spectrum for implementation, however, for our opposition from the last meeting, is to follow up the study and to request the -- the administration to come up with -- with suggested frequencies for the frequency bands for the next meeting in ASMG, in order to complete the studies for this band -- for this agenda item.

Also, in the last meeting, we have considered the -- the bandwidth already used and located in APT, and CEPT, in our studies.

>> JOSE COSTA: Thank you, and now Mr. Abraham Oshadami.

>> ABRAHAM OSHADAMI: While dealing with 1.12, what AT U. administrations initially had the opinion that might be difficult to harmonize because of the existing usage and the frequencies considered for ITS. Knowing that mobile services being used by evolving ITS also are utilized by other applications and services. So because of this, we are at ATU are paying close attention to the work of 5A and participating fully. Mindful of fact that we need to pay attention to the developments agenda item 1.16 because of the overlap around 5.8 gigahertz. So while we participate and support harmonization, we do this with full consideration that whatever position we will take on 1.12 will take into consideration the protection of services and that's considered for ITS in adjacent bands. Thank you.

>> JOSE COSTA: That ink you. That completes the regional representatives, or not? Sorry, Brian. Region 2. Brian Patten from CITEL.

>> BRIAN PATTEN: Thank you, Jose. No problem. Mainly because I was going to get on the microphone and say, you know, this is very similar to situation that we for 1.11. We have for 1.12 but it's not really true. ITU has been working on ITS issues since the 1990s and it's been evolving and changing. A lot of work and effort has been put into it and it is acknowledged in CITEL that the way the technologies have related, we have at least two technology solutions for ITS and they are as pointed out by my colleague from the RCC, they are muteilely incompatible.

So rather than address harmonization issues in the radio regulations, CITEL has taken the position through a DAIP, which you can find in document 14, on page 48, we have a DIAP that's been brought forward by Canada and the United States, in which we are going to propose no change to the radio regulations, but instead we believe this work can be best carried out to get regional and global harmonizations dealing with the technology issues in the ITU-R Study Groups through recommendations and reports. And that's basically our position in CITEL and we are looking forward to our next meeting coming up next week, and we'll see if we can get that DIAP developed a little bit more and at the it more to AIP status. Cost the next speaker is Mr. Kneels Andersen, representing car-to-car communications. Please.

>> NIELS PETER SKOV ANDERSEN: Yes. Thank you for inviting me. For those who do not know car-to-car communication is a consortium founded by the industry in Europe. It's basically develops and promotes the technology, and we have more than 80 automotive members, members from the automotive sector. We are very interested in having a global harmonization of the frequency bands. Of course to start out with the 5.9, which exists both in Europe and the US, even though they are not exactly identical, that is for us important. But we -- but we have to remember here is that -- that it's not only that the software -- or that the full interoperability would stay on the different continents, however we want to bring down the development costs to make this feature as cheap as possible. We have to remember it's a life saving feature, increases road safety and by that reduces roadside fatalities. We need to get economies of scale.

So we have the 5.9. We also have -- I don't think it was said here before in Europe. There is an allocation around 63 gigahertz. We have been looking also through our work in ATM, CEPT, at the moment that European calculation, it overlaps with those channels and therefore we are proposing now in Europe that it should be considered to align those allocations so the allocation for I TS matches those channels.

Even though you might say it's -- we first need to have the 5.9, I think we should already now start to consider those additional bands and what I heard here before the comment, yes, we worked on that in the ITU since the '90s and we also hear sometimes saying take those frequencies away from ITS because they haven't used them nor the last 20 years. So why should they keep having them?

I think the situation is changing rapidly now. There was an

announcement from one of the car manufacturers that Europe's most sold car will be equipped with a cooperative ITS is in the 5.9 gigahertz band. At the same time, there's also rapid manning and it's the first European Member States have already announced tenders for road infrastructure CITS equipment. It's happening now and it's happening in the 5.9 gigahertz.

You also have to remember that this is only the first phase. In the coming phase, we would have, let's say, more active intervention. So the car might break itself, and at the end, we would move to cooperative driving. So in my understanding, yes, the first goal is clearly to have a harmonized standard around the existing frequency band but I think we can expect that at some point in the near future, we probably also would need more frequencies.

>> JOSE COSTA: Thank you very much, Niels.

So let's have some comments or questions from the floor. We still have a few minutes.

No comments? No questions? So we can adjourn early?

Anyway, before dismissing the panel, remember I said we have item 1.1. We don't have a panel but if anyone wants to say anything about 1.1, this would be the time to say. Iran, please.

>> IRAN: Thank you Chairman. Just one minute for explanations. Some more comments to colleagues. When distinguished colleagues at the regional level. They discuss whether they take ITU-R recommendation or the WRC resolution. It's to be noted that the ITU-R recommendation is carried out under more technical environment. WRC resolutions under the more political environment. That is one difference.

The other difference, WRC resolutions only could be changed every four years. ITU-R recommendation could be changed more frequently. It is happened even less than two years. So if you are looking for the advance of technology, perhaps you should also consider the vehicle you choose and the way how you modify that. Thus sharing your experience the colleagues. Thank you.

>> JOSE COSTA: Thank you for that comment. It's very true and we have much more flexibility with recommendations. We can update it as need it and adapt to the rapid pace of the technology for diverse resolutions we have to wait and it's a long process.

Any other comments or questions?

Okay. I don't see any. So please join me in thanking this panel.

(Applause).

And this concludes session two and we gained five minutes.

Do we get a prize for that? Free coffee maybe.

>> PHILIPPE AUBINEAU: Once again, thank you very much, Jose Costa, and all the panelists for very interesting information. Dear colleagues, we have now a bit of time ahead of the schedule. However, you know that are we have a very important event this afternoon, later on, and I would like also to -- therefore to take the opportunity to start a bit earlier the next session, session 3. I don't know if the Working Party 5B chairman, Mr. Mettrop is with us. Yes, I see him coming.

While he's working to the podium, I invite the other panelists to join us on the podium, so we have, again, representatives for six original groups and also this time, to deal with agenda item 1.10 on unethical issue. We have the pleasure to welcome Mr. Loftur Jonasson from industry. And if we could have the members of the regional groups and you see Mr. Jonasson coming as well.

While I put your slides, John, on the screen, I will then let you start this next session maybe in one minute.

So John, the floor is yours.

>> JOHN METTROP: Good afternoon, ladies and gentlemen. Welcome to session 3 on aeronautical and Maritime issues. We will start with the aeronautical issues which is agenda item 1.10 and 9.1 full. Although, we will not necessarily touch the 9.1.4 information.

There is a briefing pack in contribution 20 covering all of these agenda items. Any proposal is to do a very brief introduction of the agenda item, and to ask them to give their views and ask a question of the panel, along with the views from the various regional groups and hopefully we will have time for questions.

1.10 is really the flight tracking that we picked up from the plenipotentiary as a result of the loss, firstly of air France 447 and then Malaysia M. H-130. It was realized that things needed to be done in an encouragent manner and I will turn to my league Loftur Jonasson to talk about this in a moment.

This agenda item is therefore to identify whether there's any additional spectrum requirements at the moment, for what is being called the global aeronautical distress and safety system, or are there any other radio regulatory provisions that need to be addressed to enable or facilitate the introduction. With that I will turn it over to Loftur to maybe introduce the ICAO viewpoint.

>> LOFTUR JONASSON: Okay. Yes, thank you, John and, good afternoon, everyone.

I think we all remember when Malaysia MH-130 flight disappeared perhaps three and a half years ago. What was most difficult to accept, was that modern aircraft could disappear like this without a trace. One of the many reasons that aviation maintains the high level of safety is the willingness to learn important lessons from rare events. In this case, the aviation community came together on a development and implementation of what we have termed as the global aeronautic distress and safety system, or GADSS.

On the rare occasions when accidents do occur, rescuing survivors is the highest priority, followed by the recovery of casualties, the wreckage and last but not least the flight recorders. This is the underlying efforts of GADSS. It provides a framework of scenarios that can be used to verify whether the notion complies with the concept.

There are three basic requirements or functions all of which rely on systems performing radio communications. Aircraft tracking, autonomous distress tracking and post-flight localization and recovery. The GADSS does not have specific equipment but bands, that may rely on a mixture of systems. They are given the ability to track the aircraft in all air spaces and during all phases of flight. This is different from what the air traffic controller does.

The aircraft tracking can use existing surveillance systems used by air traffic control and there are spaces where that is available. However, for aircraft traveling through remote areas such as the polar equipment. The new equipment may be required to fulfill this function.

Autonomous distress tracking is a new automation. Transmission will be triggered in the behavior of the aircraft is abnormal, so unusual altitude or rapid dissent. It can be manually triggered or autonomously. The transmitter is independent from other systems on board the aircraft and it can not be turned off or disabled by the pie hot.

The spectrum or the bandwidth is not very substantial. The EPERP spectrum or the distress signal for aeronautical. The first is to ensure accurate position to be available for timely search and rescue.

Part second one is to ensure that the data that the flight recorders is available in a timely manner to ensure that the appropriate lessons can be learned from the accident investigation efforts.

We have the first standards for the GADSS. We require aircraft tracking. These will be applicable in November of 2018, one year from now. They have the responsibility to track

the aircraft throughout the area of operations. It shall have an interval of 15 minutes or better for aircrafts with a certain size. We are required to retain the data information. This is more about procedures than systems, really.

In 2016, we adopted standards for autonomous distress tracking. These will become applicable in 2021. This requires the aircraft to autonomous transmit the information to where the position can be determined once every minute in a distress condition. The intent being to provide high probability of locating an accident site to within six nautical, approximately ten kilometer radius.

Like the standard for aircraft traffic, it requires that information is available to the relevant authorities as the search and rescue and regional coordination centers. You see it simply states it supports the studies.

At the time, the ICAO position, the studies had not matured sufficiently to conclude whether we needed a new spectrum allocation or allocations for this.

But as of now, the ICAO studies say that the GADSS can be done within the existing allocation systems. We don't believe we need to modify Article 5 of the radio regulations in any way. It would be useful to make some amendments to chapters 7, distress and safety communications, and Chapter 8, aeronautical services. This could, for instance, include a simple reference to GADSS in relation to GMDSS. Just to give you an example and a new article, introducing the definition of GADSS while not be overly specific because the regulation to arey framework for aviation resides largely within ICAO.

That concludes my intro. Thank you.

>> JOHN METTROP: Thank you. So Mr. Gnonsou, maybe we are dealing with something that we don't normally deal with. We are not dealing an agenda 5. We are looking at the later articles. What I would like to do is go along the panel members and for the views from their regional organizations if any, at the moment, but also maybe they could think about one question. And that is should GADSS be recognized in the radio regulations? And if so, how? So if I could start with APT and work my way along, that would be very useful. Thank you have.

>> BUI HA LONG: Yes. I want to thank the chairman and good afternoon to you and to all. Yes, in APT, I'm from the Working Party 5, APZ19, and in our Working Party, and in our APZ, we acknowledge the ongoing study are conducted by Working Party 5B for the GADSS system in resolution 426, and we also acknowledge the improvement of the GADSS concept with the form and the function we just heard from Loftur.

And we believe that we support the study on the special need and the regulatory provision required for the implementation of GADSS, which I undertook on Working Party 5B and we work to take into concept the GADSS developed. So that's our preliminary view at this state. So thank you.

>> JOHN METTROP: ASMG.

>> Thank you. We are translation, I will speak in Arabic.

Thank you, chairman, item 1.10 is one of the most important items on our agenda. Particularly as it relates to saving human lives. And using this new distress and safety system for aeronautical services. We will all remember the Malaysian airlines accident. I think it was one of the greatest aeronautical disasters that we have seen and this is one of the things that has led us to address this matter in the hope that it will never occur again.

Now to respond to the question raised by Mr. Mettrop, which is whether or not we should mention this new GADSS system in the radio communications regulation and if so, how, I think it's a very valid and relevant question.

And this is a question that we could raise not only under item 1.10, but that we could also raise more generally and apply it to several items on the agenda. Indeed all of these items might need us to introduce changes or modifications to the radio communications regulations.

Our group believes, as I said that this item is very important because it relates to human lives. Therefore, our group believes that we could continue ongoing studies under item 1.10. We hope we will carry out in-depth studies in this area and they will lead to excellent results within the Working Parties. So our group believes that we should continue these studies and try to protect existing services operating in new or existing frequency bands.

If we do decide to assign new frequency bands we need to look into this in-depth so that we can avoid other types of accidents like this. Thank you, Chairman.

>> Thank you, I'm from Benin and I'm the coordinator for this item for the ATU. Now, with regard to item 1.10, African Group believes it's of the utmost important and therefore at the last ATU meeting held in Senegal, and the previous meeting held in Nairobi, we established a Working Group. This Working Group was tasked with looking at the various provisions contained in Chapter 4 and chapters 5 and 8 of articles 21 to 45 of the radio regulations relating to the use of aircraft in order to determine whether additional modifications to existing provisions would be needed.

During our meeting, we decided that we would maintain the provisions that facilitate the use of the global aeronautic distress and safety system, in accordance with the requirements ICAO, while also protecting all existing services. Thank you chairman.

>> MARTIN WEBER: My name is Martin Weber. I'm part of the project for CEPT and I'm the CEPT coordinator on agenda item 1.10.

Our view is based on the outcome of the most recent findings from ICAO and we recognize that there's no additional spectrum requirements expected from this agenda item. And in general, our discussion circles around the question which was raised by our chairman here, should GADSS be recognized in the regulations and how, and if so, how?

The first approach we take is that we have for certain historical reasons this parallel system from the Maritime field, and we already talked about the GMDSS, the Maritime safety system, in a little bit, I assume.

The so the first reaction is why not, having this system -- this aeronautical protection system and put the GMDSS has a separate section there to describe the GADSS and maybe some amends of some systems -- or some provisions of Chapter 8, might be needed. Especially where the provisions which are now in place sees the responsibility for the operation of stations in the end of the person responsible for operating the aircraft. And if I'm not mistake, some of the elements of the GADSS require that the pilot responsible for the flight cannot interrupt the operation of the radio communication systems involved and, therefore, the -- some things might be changed.

But we will -- in our next meeting, we will study this idea how much of the system needs to be reflected in the radio relations.

One problem which may arise from that is that as soon as something is changed, in ICAO, we have to adjust it. This is something that we see with the GMDSS and we need to keep the provision and the regulation for these systems in the hands of the UN organization, specialized UN organization that's responsible for the operation and only restrict the provisions in the regulations that were needed to reach accountability and core cooperation of all the systems in the radio field.

This is our issue 1.10.

>> MIKE RAZI: Good afternoon, and my name is Mike Razi. The chair the aeronautic and the arm group within CITEL. And in relation to agenda item 1.10, I should note that within CITEL at present, we yet don't have a proposal and the work that has

been carried out is in line with the preliminary views that are supported by Canada and the US, which are very long and very much in line with what was discussed earlier, and the fact that Canada, US and Brazil, and forgive me, I missed Brazil, they are of the view that any quantification and characterization of requirements would be for the satellite components is for the ICOA and it should inbound coordination with ICAO.

And it's based on the results of study and it the existing regulations are sufficient or not. And we obviously heard earlier from ICAO, that they have identified certain approach on how to reflect the future needs in radio regs and in response to Mr. Mettrop, I should say at this point in time, because of the fact this information has been brought forward more recently, we have not had an opportunity to consider on how best to reflect the ICAO requirements in relationship with GADSS in the radio regs and this is something that I'm looking forward to hear more at our next week's CITEL meeting and would be able to report on the progress of this matter at a future meeting and I hope that satisfies your question.

Thank you. Sergey thank you, chairman and from the RCC, I would like to apresent our agenda item. I mentioned our position is very short, only one paragraph, currently and the reason is mostly that we are in our consideration rely on I. CAO view and on ICAO design of the concept of this system.

And so far, we almost already to guess counsel of our discussion. We still not have a very precise indication that the concept is developed, and it's ready. So to this extempt, we discussed whether this agenda item, can go to the conference, 2023 and this is maybe the way out, in order to look at this in detail, when we see the concept ready.

I'm sorry. I switch to the Russian language now.

And so with regards to the question asked by the chairman, or the moderator, whether the GADSS concept merited, you know, inclusion in the radio regulations. Unfortunately we haven't discussed this within the RCC. Firstly, this question could be discussed when we see concept itself, when we are in the clear as to what the concept is like. And how it is good to be related to the radio regulations.

We can't simply cut and paste.

The concept of Maritime safety and security to apply it to a safety in the air. There could be other concepts here, car transports, safety and security, railway safety and security, and where systems can also be global, but what we include are into the regulations is when we have provisions clearly linked to the regulations and it would entail the need to ensure

certain use conditions for these radio frequencies.

So that is a very important point that needs to be further studied. And it is to be -- it's still to be seen whether the incorporation of that concept in the radio regulations would be a winning benefit.

And the final point, we were gratified to hear that ICAO is considering the implementation of this concept within the framework of existing frequency band allocations. Because our position has been Harmonized before that and this new element will be taken on board so that we consider this matter forward and prepare proposals on behalf of RC and Member States.

>> JOHN METTROP: Do you have anything to say?

>> Yes, John. I think there maybe a little bit of clarification. The concept of operations document for GADSS was in the final form -- well, nothing is ever finally but for the time being, for the next few years was agreed by the ICAO unification commission approximately in June and that's version 6.0. -- were submitted to working party 5B a couple of weeks ago.

Yes, things have been moving relatively quickly, considering that we had barely even started thinking about this at the last conference. But, yes, I think we are getting there.

Thank you.

>> JOHN METTROP: Thank you. Are there any questions on the floor? Iran, you have the floor.

>> IRAN: Thank you, Chair. I had a question, perhaps to RCC. If there is a general understanding that there is no need to modify the radio regulations but to reflect the GADSS in the radio regulations, Chapter 7, Chapter 8, why do we need to have an agenda item for 2023? Why we overload the future conference for another agenda items? And if and only if that would be perhaps cautionary mention that. First, there is no need to review any need of frequency allocation. And the second, I found it quite unforeseeable that the WRC could not agree to reference GADSS in chapper 7 or #. So we have some doubt about future agenda items. Chairman, I would say that we are suffering for some of these additional agenda items which, in fact, are not agenda items. They are ITU-R studies simply, ending to a resolution -- as a recommendation of ITU-R. So we would like to have some clarification why we need a new agenda item for 2023 at this stage. Thank you.

>> JOHN METTROP: Sergey.

>> SERGEY PASTUKH: Thank you very much, and thank you, Mr. rafty for your question. Now the answer is also quite simple. Given the latest data received from ICAO, and

represents our ITU Working Parties it seems that there is going to be a new -- anything additional in the agenda. We can agree to that.

Why it is stated now in often significance, the explanation is also quite simple. We saw that quite a long time had elapsed, but the concept as such, an approved concept was not there, so kind of spectrum needs we should consider with regulatory provisions, et cetera. We don't have enough time until the WRC-19 conference to discuss all of that in detail and to come up with a well-balanced proposal.

That is why last September, in our RCC meeting, tipped -- considered -- proposed to consider that, even if the information was still to arrive, we still have enough time to prepare and would move -- would defer it until the conference. But given the new data, there's no ratifications needed in the radio regulations, et cetera. The RCC would -- would not insist on any item in the WRC-23 agenda either. Thank you.

>> JOHN METTROP: Questions? No? Then I thank the panelists for their time and input and we will move in two minutes to the next session or the next part of this session, where we are dealing with the Maritime issues.

So we will take a short break while the panelists change, and could you give a round of applause to the panelists.

(Applause).

>> JOHN METTROP: So in this session or part of this session, we will pick up mainly agenda item 1.8, but obviously when I open up for questions there's obviously, 1.9.1 and 1.9.2, and 1.8 deals with the moderation of GSS and picks up some of the issues that were not resolved at WRC-15.

There are two resolves in the agenda. The first is the update GMGS that is not too controversial. The methods proposed so far, all look to be fairly similar.

Where I think. Issue may well sit is with regards to resolves 2, and the introduction of additional satellite Times into the GMDSS. So what I would like to do now is first invite the representative from irridium to put why they think there is a case to put that in and T alayeh. So if I could turn to you first.

>> CHRISTINA BEEBE: I'm Nina Beebe. I'm here on behalf of Irridium and I wanted to speak about some of the background to the agenda item, in part because it is very important to the Maritime community, as a chairman safety matter. And I also attend the IMO meetings and so I'm able to get a little bit of that perspective.

I thought I would begin by explaining first at a high level,

what is the global Maritime distress and safety system. This is a system of terrestrial and satellite technologies that provide two-way communications between ships, Maritime authorities, and other ships in the area of ships in distress. And effectively, it enables two things to happen. One is to improve the efficiency of search and rescue operations and, two, is to provide Maritime safety information such as information to aid ships navigation, to avoid storms, or other kinds of environmental impacts.

And so it has a sort of tertiary benefit of providing greater environmental safety as well. It's mandatory for ships above a certain size that travel in certain ocean regions.

Here in the ITU, resolution 359 asks us to take account of the activities of the IMO. So it's worth mentioning what is taking place there as well. The IMO is currently considering an application for approval of a new satellite GMDSS provider and this application process has progressed quite substantially. Up until now, the first applicant to take advantage of the IMO policy to open this up to new providers has now gone through two assessments for compliance against the I. MO's requirements and we're very hopeful that Iridium can be approved at the -- in the IMO's sessions in 2018.

But the IMO has also taken a very important step that enables other providers to come forward and to be recognized as GMDSS providers. The IMO has updated and amended the safety life at sea priority. And there's a strong impetus here for the ITU's work coming from a very specific application in the IMO and the treaty change that the IMO has undertaken.

It's also worth mentioning to address what brings the urgency of this agenda item. Under the current satellite GMDSS service provider, there are areas of club left without coverage. These are the arctic and the antarctic, where the current geospatial system are not Pabel to provide coverage. We have seen a significant increase in shipping, because of the recession of sea ice due to global warming. And this is true not just due to cargo vessels and other types of commercial vessels but for tourists and passenger vessels that are visiting these areas in greater development. It's estimated that 90% of the world's trade is facilitated on the sea. Developing countries are increasingly taking part in that value chain, owning ships and port operations and serving as ship registries and adding to their GDP through that activity. And it's worth noting that developing countries supply the majority mariners, and risk their lives when there's not sufficient GMDSS coverage.

And for the last 30 years of the GMDSS, there's been a sole provider and taking action on this agenda item now enables us to introduce diversity and redundancy into the system to improve the Maritime safety, as well as to increase the competition in the sector.

But returning to spectrum, what we are most concerned about here in the ITU, I think it's worth noting a couple of things concerning the applicant system which is Irridium, and Heblio2 in many of the technical reports you will see. Iridium has been operating successfully for 20 years and there's no proposed change to 9 -- the allocation here. There's no new spectrum needed in order to introduce GMDSS and that means there's no change to the system that exists now.

Secondly the frequency allocations used by the iridium system is they operate in a T. DD arrangement with the uplink and the downlink in the same channel that. Provides a unique sort of protection for of the secondary downlink because the uplink is primary and has been fully coordinated, thus providing the protection that one would expect for a safety service.

I think it's interesting that the IMO appointed group of interest, that they looked at this and the other compliance assessment, judged that this spectrum arrangement was sufficient for the protection of GMDSS and for the provision of GMDSS, in part because the distressed signal that is sent from the ship is sent in the primary uplink direction.

(Off microphone comment).

>> CHRISTINA BEEBE: We believe we can add the spectrum to appendix 15 and making minor modifications to several footnotes in order to increase the protection of GMDSS.

Thank you very much, Mr. Chairman and all.

>> JOHN METTROP: Talayeh, can I turn to you to put the concerns that your industry have about this could I ask you to be reasonably short as I understand we have to be finished by half past.

>> TALAYEH HEZAREH: Good afternoon. I represent the European radio astronomy. So regarding agenda item 1.8, the frequency band and the mobile satellite service that are being considered for GMDSS are a concern to the radio astronomy community. The frequency 16.10.6, has been experiencing harmful interference from the Iridium. In the near Y band. 16.18.25, if I'm not mistaken. And this interference persists to this day, unfortunately despite footnote 5.372, that specifically demands, but no harmful interference shall be caused to the stations of radio astronomy service in the band 16.10.6, to

16.18.32 by the MDS and RDS systems. We know that iridium is in the process of renewing the constellation, by replacing the old satellites with new ones and the Lehime system is measuring the unwanted emissions of the new satellites.

And so far, we know that this unwanted emissions of the new satellites have decreases due to operational measures, including reduced operational bandwidth, implemented for the reduced satellite and reduced power for the time being.

The interfere threshold are still exceeded. We do not see to this day an evidence that the new Iridium satellite will be able to protect radio astronomy from interference.

We have heard presentations -- we have heard presentations by Iridium, explaining simulations that they have done on an operational method can can only ab plied once the entire constellation is renewed and operational. We would have loved to see the details of this assimilation. We would love to have contributed and collaborated on the interference issue. Unfortunately, the details of the simulations were never shared with the radio astronomy community and we know that they are not conclusive either.

So our main concerns are basically facing, in the near future a completely refurbished and new. Is system that's still causing interference to the radio astronomy system and on top of that has become a safety of life service provider.

Thank you very much, Mr. Chairman.

>> JOHN METTROP: Thank you. And given the time, maybe I can turn to the regional representatives to maybe Sergey this time, you can start from the back end and if you could be brief, I would welcome it. Thank you.

>> SERGEY PASTUKH: Thank you very much, John. Well, I will be very brief, because 9RCC Member States position on this question is quite brief as well. It boils down to the fact that we consider the IMO work results to modernize the GMDSS and we can see the decisions are taken in terms of recognizing an additional global security safety system.

The position is very simple, that is any renewal of the global system needs to be agreed and should not lead to worsening in the functioning of existing services which need to be protected as was the case in the past.

>> JOHN METTROP: Mike.

>> MIKE RAZI: Thank you, John. From the CITEL perspective, we have so far a couple of preliminary views which are shared and supported by Canada and the United States, and I should note that we are expecting more proposals at the next CITEL meeting on this important agenda item and obviously the matter

of introduction of a new satellite system into the GMDSS is of immense importance to Region 2 and I would say countries where they are have exposure to the Maritime roots in the North Pole and the South Pole. And concerning the shortness of time left for us, I would just add that the views that have been expressed at CITEL are reflective of support for property modifications of the radio regulations such as appendix 15 to provide subsistence. Hopefully at more approaching time, we could discuss the other details that were provided today. Thank you.

>> MARTIN WEBER: I tried to sum this very briefly, but I need to -- yes. I need to start off with some points. First of all, in CEPT, we have a -- the recent meeting, a discussion round, especially the status of allocations and we heard there as well the argument that the primary uplink protects a secondary down link. But this was a view, if there is an -- the transmitter of the earth system is and synchronized and then no communication could take place, but this is a technical issue. Regulatory, the problem we discussed is around the provision 31. The regulation that gives special protection to the frequency bands mentioned in appendix 15, and this would effectively mean that we ask for a special protection for a secondary service, and this is an issue where we still are in the process of looking for a solution for. And I think this is the center of the -- this item.

The other point is that before we came up with the proposals for the WRC, we should be sure that IMO takes the decision, that this is to become part from their view as GMDSS. So this gives another difficulty on this item and maybe would have been wiser to propose it to the next conference and now we have it the WRC-19 and you see we try to find solutions at this conference.

I think that was long enough. And I give the microphone.

>> ABDOURAMANE EL HADJAR: Thank you, I'm Abdouramane El Hadjar. I'm in charge of building wish Toews related to the WRC-19, agenda item on -- on our retirement, and mill services. From ATU's perspective, and as outcome of our last ATU meeting in September in Dakar, it appears we are still at an early stage of our consideration of the agenda item, 1.8 under the GMDSS. That is why from now we do not have a formal proposal on this issue but we have some preliminary views.

According to the minimum views, we are supporting the studies on the GMDSS modernizations following the related activities of IMO and we are also supporting the introduction of additional satellite operators in the GMDSS subject to IMO

approval in -- in order to achieve redundancy and global coverage in Maritime safety services.

And for our next meetings, and the Working Group meeting and even the APT meeting, we will work on the development of text on the regular term measures that will ensure the proper development of the GMDSS and also take into consideration the protection of the existing services. Thank you.

>> Thank you, Chairman. My name is Mohamed Salina and I'm from Egypt and I represent the Arab group. With regard to item 1.8 on our agenda, and the other matters related to the GMDSS and the modernization thereof, the Arab group believes that we need new communication systems in this area, that is with regard to distress and safety at sea. And that this is pursuant to resolution 359. We do, therefore, need to modernize this system.

Indeed the moderation of the global Maritime distress and safety system would allow us to modernize all related services. Therefore our group believes it is necessary to review all regulatory measures which would allow us to modernize this system.

The Arab group also supports the inclusion of supplementary or additional satellite systems within this GMDSS, provided, however, that we are able to safeguard the compatibility and conformative between these two it systems and the current system.

And, of course, the Arab group believes that we should continue the studies currently ongoing on in the ITU-R sectors and the relevant groups in order to protect the current services. Thank you.

>> BUI HA LONG: Yes, I thank you again. With regards to the agenda item 1.8, the APT members we recognize important opportunities on life on sea and we support the modernization of this system. That's why we support the ITU-R study on this agenda item. And regarding the resolution 359, we support the cooperation of the frequency and system, in both FS and HS range, as described in the relevant ITU-R recommendations, and we -- we support that the mapping system.

And we support the introduction of modification to the radio regulation to provide additional satellite system and we hope we do not have any impact on the frequency and the service within the frequency band that we see in Working Party 4 C.

Okay. I think the time is up. So I still have the floor, I think that this is an excellent idea is that we are here today and have this workshop and we can exchange -- we can present and exchange our position and our views on the preparatory work

of -- for WRC-19. So I would like to express my thanks the chairman. Thank you.

>> JOHN METTROP: Is there any quick question anyone has? France? You have the floor.

>> FRANCE: Thank you, Chairman. It isn't actually a question, but rather a comment. What was said by the representative of CEPT is not, I believe, completely in line with the position of CEPT. I think that what I actually heard was my friend Martin expressing his own view. The CEPT has never looked at perhaps including this item on the 2023 agenda.

Thank you, Chair.

>> CHAIR: I'm not sure that was quite what Martin suggested. Iran, you have the floor.

>> IRAN: Thank you, Chairman. I don't get involved in the internal debate with CEPT, but I don't think it's quite appropriate as one CEPT member opposed to another CEPT member. Perhaps it's outside the meeting, but not here.

I think reference was made that iridium has coordinated. It's not true. According to 9.11A assignment they just coordinate with other assignment with equal status. Secondar into secondary. They never done any coordination with primary.

Radio regulations, appendix 5, footnote, mention it and through the procedures is from, many many years. So to have not done any coordination with any, and therefore they are subject to interference. We put it in appendix 15. So you are protect the secondary by the primary. So please guess what has happened.

And that is dangerous. Thank you.

>> JOHN METTROP: Your comments are certainly noted. I would suggest that at one point, there was some some coordination. I can't remember exactly what frequency band for the aeronautic satellite R, I believe iridium did do coordination. That's the last one -- no, Senegal, my apologies.

>> SENEGAL: Thank you, chairman. We would like to request a question of Iridium. If the new system is launched is it compatible. Would the ships that currently have a GMDSS, whether it's competition be able to ask for an offer from a ship. That's my question.

>> CHRISTINA BEEBE: Thank you for the question. I think that up with of the critical points concerning competition in the system is that hip owners -- ship owners will be able to choose which system they prefer to have on ships or indeed if they care to carry both systems on board ship and both can be on board a single ship if that's what is chosen. The systems aren't interoperable in the sense that you could use an Iridium

terminal to communicate with an inmar satellite. They are certainly compatible with each other. Iridium does not replace Inmarsat, it's a new provider. The community can take advantage of if it chooses.

I will just offer one very brief comment in response to one of the earlier comments made from the floor. I think if there are questions about iridiums coordination,s you are free to consult the IMFR, and understand that the system has been fully coordinated under the rules that were in place at the time of the coordination. Thank you.

>> JOHN METTROP: Thank you. That brings me to the end of this session. I would like thank the panelists and maybe we could do it in the traditional way of giving them applause.

(Applause).

And then I will hand it back to Phillippe to maybe make a few announcements about what's happening tomorrow.

>> PHILIPPE AUBINEAU: Thank you very much to the panelists for being with us this afternoon. You could see on the screen, the schedule for tomorrow. We will start at 9:00 with a session to address the science issues, and subsequently, there will be another session five on the satellite issues. In the afternoon, we will look at another 9.1 issue, 9.1.6, the wireless transmission for electric vehicles and then the second part of the afternoon, or early afternoon, we will address again this issue of developing frequency bands between different frequency bands. I thank you very much for being with us. Don't forget that in about 20 minutes, we will have in this room the celebration of the 90th anniversary of the CCIR/ITU-R Study Groups. And with, that I think I thank you very much all, and -- and wish you a good evening at the ITU. Thank you.

(Applause).

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>> KHALID AL AWADHI: Ladies and Gentlemen, Ladies and Gentlemen, good morning. We will start the meeting in two minutes. Could you please take your seats? We start in two minutes. Thank you.

May I invite the panelists for this session on science issues to kindly join us on the podium? Thank you.

Ready to go? So Ladies and Gentlemen, good morning. Welcome back to the first ITU interregional workshop on WRC-19 preparation, the second day. We will have other interesting sessions today. We will start with session on science issues. And later this morning we will look at satellite issues.

So to start this or to moderate this session on science issues we have three agenda items for which Working Party 7B is a responsible group. And we have the pleasure to welcome with us this morning the Chairman of Working Party 7B, Mr. Bradford Kaufman, and also to welcome panelists for this first session from the six regional groups as well as from CNES and MetSat and without further delay I give the floor to Mr. Bradford Kaufman for ongoing with this session. Please, Brad.

>> BRADFORD KAUFMAN: Thank you. Good morning, everyone. And this is the first session for today. And what I would like

to explain is what we will do is we are going to do 1.2, and 1.3 first. Then have a slight change in the panel and then we will do 1.7.

1.2 and 1.3 are both related to EESS and MetSat. So they are somewhat related. And so the panel will be addressing that first.

Just to give you some background, first with 1.2, I'd like to explain that the agenda item is essentially to consider power limits to protect satellites, the ESS and MetSat satellites as well as the mobile satellite service. Currently those in the band 399.9 to 400.05 megahertz and 401 to 403 megahertz, the satellites of those three services are used for data collection. And so they are picking up signals from ocean buoys and other fairly low to medium power transmitters on the earth, and those are going up to the satellites. Now this agenda item is to protect those satellites from the earth stations because there is TT&C, the telemetry tracking and command, which is much higher power. And so it -- the purposes of this agenda item 1.2 is to protect those satellites and to determine the limits of those uplink transmissions.

So that's agenda item 1.2. Now agenda item 1.3 is similar but in a sense in the reverse. So this agenda item is for the EESS and the MetSat services in the 460 to 470 megahertz range. Now currently there is a secondary MetSat allocation in that band. Which I would like to make primary. That's what this agenda item is to do. And also to add an EESS earth exploration satellite service allocation also primary. This agenda item 1.3 is to add to upgrade the MetSat and to add an EESS allocation. Now to do that they need to protect the existing services. So in this case, 1.3, we're dealing with a satellite, the power coming down. So it is the PFD on the ground setting those limits.

So the idea is 1.2 is essentially uplink power. And 1.3 is downlink. Now with those two agenda items they are actually within 7B that the status of the studies within 7B, each of those have a preliminary draft new report that gives the characteristics the requirements and the initial status of studies and in both cases it appears that there are power limits that could satisfy and could work for sharing. So in both cases the preliminary results from the studies are currently looking favorably towards both agenda items.

So with that what I plan to do is ask the panel and I'm going to start with the proponents and start with EUMETSAT at the end to give a view of their view of these agenda items. And then also to provide us a somewhat of an outlook of what they project will be coming between now and the CPM and particularly now and the need to complete the draft CPM text within 7B. So I kind of get an idea of what work they are going to do on these agenda

items. So with that I give the floor to EUMETSAT, Markus Dreis. I would like each of you to introduce yourselves just so the participants can know who they are hearing from. Thank you.

>> MARKUS DREIS: Yeah. Good morning, Ladies and Gentlemen. My name is Markus Dreis. I am from EUMETSAT. EUMETSAT is a non-profit organization and Intergovernmental satellite organization operating meteorological satellites. I'm also Chairman of Working Party 7C which is dealing with active and passive sensors and Mets. Data collection systems are operated through nongeostationary and geostationary -- I will concentrate on the GSO part and my friend Jean will concentrate on the non-GSO part so we both have something reasonable to say. Unlike for systems like IMTU everyone knows what this is all about. It is not immediately obvious to a country or to an administration how much, how deep they are involved and they how they are benefitting from the operation of data collection systems. Currently there are around 30,000 data collection platforms sending messages through meteorological satellites on basic fundamental meteorological parameters and environmental parameters. Such users spread globally. So that means those platforms appear everywhere remotely in places where there is no network to provide such a service. The GSO meteorological satellites are operated by a handful of operators globally and they provide and coordinate among each other always a network of satellites for these basic meteorological satellite observation from space, but they also carry data collection systems through which they relay the messages from those platforms.

So that means in all three regions there are operators of satellites which provide the infrastructure for these data collection systems to operate. So this shows the interest should be to all of us, to each country. So what are these platforms doing? They provide -- I give you four examples of areas where they provide information. So it is the basic fundamental meteorological parameters like temperature, humidity that these information that you need on a daily basis today to do a forecast. Water management. Precipitation, how much rain is falling, the stage of the rivers, the height of the rivers, the floating speed of the rivers in order to have a forecasting on flooding. Tsunami warnings, they provide one important element to the tsunami warning system that is provided through the WMO warning system and spread the information to the regions quickly. And finally those data collection systems can also be used for emergency disaster management purposes because these platforms are in areas where such disasters appear. And this information can be used at any time.

Also to give you an idea this spectrum is used very economically among the operators. There is a recommendation

SA2045 in which there's basic partitioning plan which provides each of the operators a chunk of the spectrum in order to operate these systems. And it is split between non-GSO and GSO so those data collection systems can operate next to each other. Why do we have this agenda item 1.2? It is already said by Mr. Bradford Kaufman by the nature of these platforms they operate with low powers of it is in the easy to get there, to change battery or to a permanent power supply. So they have to operate on minimum power. All other applications would need to adjust on these power levels in order not to interfere with these data collections. We see a trend the band 400 megahertz which is the unique resource, they operate with much higher powers. So there has to be a limitation in order to provide all different applications, access to the spectrum and preserve the access to the spectrum. With this having said I would like to plead the administrations even though it is not obvious to you that you are involved or interested, you are and you benefit from that. Thank you very much.

>> JEAN PLA: Good morning to you all. Thank you, Chair. My name is Jean Pla. I work for the French space agency CNES which collaborates with MetSat, NASA and most meteorological and space agencies in the world. And our objective is space exploration of all the universe but also in meteorological and climatology and observation of earth. I would like to give you a few clarifications in addition concerning data collection systems by satellite. And in particular I'm going to focus on non-GSO systems. Markus Dreis has pointed out that his organization deals with GSO systems but there are also non-GSO satellites. The objective of use of such satellite is that they follow asynchronous (inaudible) and they are capable to provide global coverage. To paraphrase what you heard from Markus Dreis, if data collection systems, data collection platforms, DCPs in English, to detect tsunamis, floods, earthquakes, tectonic plates movements, meteorological observations, climatic observations are clearly front and center in the operation of a systems because it is of interest to all the interest that's using -- in using the satellite is to have a serious offer repeated on reliable data. Because it is only satellite that are able for providing climatology repetitive rows which enable climatology to better monitor the climate. In addition to that to give you another example, these data collection systems by satellite when they are non-GSO they are used by Government to try and better comply with existing regulations in order to conserve resources and in order to conserve fish resources. And to equip a resource with sensors in order to put an end to illegal fishing. As you heard from Markus Dreis we have data buoys which sends signals to satellites registered. And then

redisseminate using other frequency bands towards major meteorological hubs of the objective clearly is to optimize the operational life to extend the operational life of such buoys. So it is clearly necessary to use as low power as possible in order to extend the operational life of such buoys as you heard from Markus. The objective for 1.3 at WRC-19 is to introduce limitations on the use of frequency bands. And the band 399.9 to 400.05. And so 401-403 for EESS which goes for other applications because under the relevant provision of the radio regulations it is not only for the environment. So this item of the agenda targets protecting the buoys and the use of data by satellite because we can see the trend of using this frequency bands for tracking, for TT&C. The problem which we have encountered is that this TT&C stations use much higher power compared to data collection systems. For example, these systems could track various mammals or birds in very low power. So the solution should be regulatory solution, that's would make it possible to support the use of this frequency bands in the future. Limitations need to be introduced for both NGSO and GSO satellites. And that's clearly for 1.2. For 1.3 where we have the secondary allocations space to earth and required (inaudible) megahertz to give it a primary status for earth exploration service satellites and clearly it is a signal which has been -- which is sent by satellites towards on a downlink, towards the buoys in order to send commands to the buoys. So that would make it possible to extend the operational life of such buoys and would make it possible to conduct this observation so sufficiently as possible. So that's what I wanted to say. Thank you.

>> NIKOLAY VARLAMOV: Thanks very much Mr. Chairman. Good morning, colleagues. My name is Nikolay Varlamov. I'm deputy Chair of the Working Group of the ICC, our group is involved in the preparation of WRC-19 and the Radiocommunication Assembly in 2019. I would like to remind you of the fact that the ICC administration's position on this item of the agenda as of September 28th, '17 is published in document 16. So you can avail yourselves indeed. We also regularly publish the ICC position both in Russian and English on the ICC website.

Now with regards to 1.2 of the agenda we have been taking an active part in the studies to determine the limits of radiated power 4 EE satellites in this frequency bands. The main objective pursuit in these studies in our view is to rule out interference for the meteorological data collection systems in the EESS systems and MS systems.

Clearly given the advances made and reflected in the draft report of EIRPM in the 400 megahertz band. Such limitations as a result of studies under 1.2 in our view should not apply to

existing operational systems registered in the MIFR are using the 400 megahertz band for space exploration systems. I apologize, are we going to cover 1.2 and 1.3 together? Thank you.

With regard to 1.3, we believe that there's a need to harmonize the use of frequency bands. So used by data collection systems in the meteorological satellite service and in the EESS service. We believe that the upgrade or the allocation to the meteorological service on downlink space to earth and possible primary allocation to the earth exploration satellite service also on the downlink in the frequency band 460 to 470 megahertz would be possible on the following conditions of first of all the protection of terrestrial services used for 460-470 megahertz where already allocated on a primary basis. So we need to ensure that there's an acceptable level of interference for the functioning of the two services.

Secondly the proposed measures for the protection of the terrestrial services should not place additional limitations on existing satellite systems and networks working as meteorological satellite services and earth exploration services. We need to get MSS service priority status to other services of Thank you, Mr. Chair.

>> CARMELO RIVERA: Thank you very much. My name is Carmelo Rivera. I am the current Chairman for CITEL's WRC Working Group preparing for WRC-19. First I want to say in region 2 the recent hurricane season very destructive hurricane season as a matter of fact has elevated a lot of the MetSat issues in our region. In some cases the MetSats are the only points, data points for weather, where weather radar and so on have been destroyed by hurricanes, weather information networks or MetSat get data directly from the MetSat is the other weather information they are getting. With that I want to also say that within CITEL in 1.2, so far we have only reached a status of preliminary view. We have some countries support conducting and completing necessary technical operational and regulatory studies and the possibility of establishing inband power limits for earth stations in the EESS in MetSat service. And the frequency bands 401 to 403 and the MSS and frequency band 399.9 to 400.05.

In 1.3 we also have preliminary view that supporting upgrade of the MetSat and EESS allocation to primary status which would provide regulatory certainty for data collection systems measurements need to be taken to ensure protection of and that no constraints are put on fixed and mobile services, including the use of band for IMT.

We have a meeting coming up next week looking at some of the documents, some of the inputs to these. I see more preliminary views, more information coming up. So hopefully by the next

interregional workshop we will have a lot more on this subject from CITEL. Thank you.

>> GERLOF OSINGA: Good morning, everyone. My name is Gerlof Osinga. I represent CEPT on science issues. I want to provide you the current status of CEPT. We have done some work and I would like to bring you up to speed on that. The information can be found on the information document No. 5 and furthermore, as reiterated yesterday we have draft CEPT briefs which are free accessible on the eco website. And if you find difficulty to find them at the end of the document 5 you have an URL where you can find the information.

To start with agenda item 1.2, for the frequency band 399.9 to 400.05, example the characteristics of one of these systems has at this stage been incorporated in to one of the ITU-R documents. In terms of capacity and the DCP to power. Several large scale systems are in development. In order to prevent the situation whereas the 399.9 to 400.05 megahertz bands become unusable for large scale low power MSS uplinks operations the debate around agenda item 1.2 is trying to address limit and over time find suitable and acceptable means to use the TT&C operations in this particular band. The frequency band 401 to 403 is currently being used by many GSO stations and non-GSO stations. As introduced by others gather information activity related to earth environments, science applications, et cetera, et cetera.

The issue under this agenda item is to determine the potential impact of the high power TT&C operations and to determine what if any power limitations are appropriate. Taking in to account the detailed list of the characteristics of the GSO non-GSO satellites, the maximum EAP we see as follows: For the 399.9 to 400.05 megahertz to have a maximum to not exceed 5 dB. 401 to 403 we need a different set of limits to establish the maximum EAP limits. For the GSO we see that we should not exceed 22 dB watt and non-GSA we would like to not exceed 7 dB watt. CEPT is studying possible regulatory actions regarding the satellite networks operating TT&C. Links exceeding their relimits and we are still working on that particular part. If I continue with agenda item 1.3, the issue around this agenda item is to find ways to accommodate primary allocations to the MetSat and the EESS in the 462 and 470 megahertz and take in to account the protection needed to impose constraints to existing primary services in the frequency band and adjacent frequency band. Those are currently under study in ITU. One other issue we are working on is to verify the PFD limit that we assumed will protect the fixed services will also the protect mobile services operating in this particular frequency band and to protect the broadcasting service in the an adjacent band. The CEPT position

on this is that yes, we do support the MetSat upgrade and we do support a primary EESA allocation in the band. Provided that the priority of the MetSat over EESS is retained, protection of primary services ensured and not to claim protection from station at fixed and mobile services. And with that I'll leave it and we continue later. Thank you.

>> KHALILOU NIANE: Good morning. My name is Khalilou Niane. I'm from Senegal. And I'm coordinator for chapter 4 within the ATU group. And I will be presenting the provisional views of the African Group. Firstly with regard to item 1.2, as you recall this is an item that relates to the establishment of power limits in bands 401 and 403 and 399.9 to 400.05. What we have understood is that currently in the regulations there are no power limits in the section that is lower than 1 gigabyte. And we noted there is a need for stable well established regulation to ensure that we can in the long term continue to exploit data collection services. That is why the ATU has decided to support studies for power limits in these bands. So that we can guarantee future and existing meteorological operations. I'll now move on to item 1.3.

This as you said Moderator is an item that relates to upgrading from primary status to secondary status and a primary allocation for EESS services in the 460 to 470 megahertz band. What we have decided at the moment within the ATU is to encourage administrations to participate actively in studies undertaken under Resolution 766 while maintaining no change to the current situation until the studies demonstrate that the services in place are sufficiently protected without any other constraints that are imposed upon them. So Moderator, the reason for this no change stems from the fact that we have terrestrial and mobile television services in the adjacent band which goes up to 694 megahertz. And we would like to ask that these networks be protected because in most African countries they are only just being rolled out. Thank you.

>> Thank you. My name is Mohammed and I represent the Arab group in this meeting. With regards to item 1.2 it is well-known that the frequency bands 399.9 to 400.05 megahertz and 401 to 403 megahertz bands are used for the IMT and also for the MetSat services and also for the earth exploration satellite services, the EESS where there is a data collection systems which has a low and moderate power. And in order to protect them the Arab group does support the study to put power restrictions in regard to the satellite services and meteorological services, in order to ensure services that have low and moderate power. Such as DCS services and for any services that have higher power. Thank you.

>> ATMADJI SOEWITO: Everyone my name is Atmadji. I represent APT. My assignment is to Chair Working Party 4. There

has been a couple of meetings in the previous months and so far we only able to come up with primary views. We look at agenda item 1.2, when regarding the power limits to the bands of 399.9 and 400.05 and in the upper part it is 401 to 403, there is some points which come up during the discussions that we understand that there are some requirements to limit for TT&C. But there are some applications in the member countries which either DCS related or non-DCS related. It is already using that spectrum for the services. So the concern is that those kind of limitations for the maximum power limit will not be affecting the existing services already, non-DCS services.

That's -- when it comes to item 1.2. And as for item 1.3 we support further studies for the sharing and the mitigation of the reference. And again as we noted earlier that the concerns most likely on the existing active services on the terrestrial side. And in the future we will not limit the sustainability of the existing service. I think that's all. Thank you.

>> Thank you. With regards to item 1.3, the Arab group uses this band extensively which is 460 to 470 megahertz for both the mobile and fixed services. And according to the last meeting of the Arab group we do not agree to increasing the secondary distribution to a primary or allocation to a primary allocation while following up the studies that are underway within this item and to protect the current services.

Thank you.

>> BRADFORD KAUFMAN: Thank you. And I can appreciate what our panelists have done. Unfortunately because of the time and we still have agenda item 1.7 to do we are not going to have an opportunity to ask questions. I apologize for that. We are going to take about a minute to change the panel slightly. And so -- and then we will start on 1.7. So I appreciate our panelists current and the two at the end can leave and be replaced by a new panelist. Thank you.

(Applause.)

>> BRADFORD KAUFMAN: While we change out the placards I will start on a description of 1.7 and it could be said not for something completely different because where we were talking about EESS and MetSat primarily in the prior two agenda items now we are talking about satellites of short duration. And what that means is the period of validity is just a few years. The intent of this as many of you may know was really in terms of small Sats or nano/pico satellites. There is no way to define within the radio regulations the size of a satellite. This is a way to handle these very short missions and try to provide frequencies for their telemetry tracking and command.

And the agenda item is focused below 1 gigahertz. And the allocation would be for the space operation service. The agenda

item is currently focused on two bands, the 150.05 to 174 megahertz. And the 400.15 to 420 megahertz.

Since we don't have a lot of time I'm not going to go in to much more detail. However I will say that there are two -- there are actually three reports that are in process within Working Party 7B. Two of them have actually been elevated to a draft that's a characteristics and requirements. So the characteristics and requirements for this agenda item have been fairly well established. And that those are going to the Study Group for approval. And the only one that's still outstanding is and it is a preliminary draft new report is the actual studies. Unfortunately the studies right now are appearing that there's the share something not probably feasible in all the bands that have been studied. However, there may be a little bit of possibility for an allocation. And that -- but these are ongoing studies and hopefully at our next meeting we will be able to definitively determine if sharing is feasible. But it is unfortunately not looking promising. So with that I'm going to start as we did with the prior panel I'm going to start with the proponent and I would like -- you don't need to introduce yourselves again. But Mr. Willis. With that I'm going to give to the panel. Mr. Willis.

>> MICHAEL WILLIS: Thank you. I am Mike Willis. I am from the UK space agency. I see companies coming to me who are just starting out in the satellite sector and they are looking for spectrum to operate their latest satellite demonstrator mission. They are not usually familiar with the radio regulations. They just want to control their satellites. And I have to explain to them that at the moment if you want to operate below one gigahertz there are very few options available to you and the problem with that it is frustrating innovation. Small satellites provide greater opportunity for new entrance to space. And a lot of these missions are based on the standard cube sat modular design which is low cost rapid development and launch of small satellites. Since 2013 it is now 60 per year. And that doesn't include any of the constellations. So it is very much a growing area.

And I should say constellations are not the target of this agenda item. So cube sats and small sats and we were using the 135 and 145 megahertz and Universities and SMEs have copied the amateur practice and made is much more accessible to those new entrants. They can copy the hardware and they can copy the ground segment but they can't copy the frequencies because as we know within the radio regulations systems need to operate if an appropriate service allocated to that service and in this case that's a space operation service and hence this agenda item. So what are the spectrum requirements and as the Chairman mentioned

there has been two reports within the Study Group 7 and a third one on sharing which have looked in to this. And the spectrum requirements are about 625 kilohertz to 2.5 megahertz in the space direction and about 682 kilohertz to 938 kilohertz in the earth to space direction. It is not a huge amount of spectrum looking for. The problem is that most allocations in the uplink side are subject to coordination under 9.21 and that's not appropriate for these small satellite missions. So operators are finding that they have to operate in less suited allocations. And with more missions happening all the time this is likely to cause interference to systems that are operating in those bits of spectrum. We have already under 1.2 and 1.3 heard about the issues in 400 to 406 megahertz and if limits are agreed in these areas then clearly these small satellite cannot operate in those parts of the spectrum and administrations won't have a home for them. So if we are to benefit from the opportunities presented by short duration satellite missions we need to ensure there is appropriate spectrum for it. If we don't it is likely that mission will continue to be launched and there is risk of interference. Thank you.

>> NIKOLAY VARLAMOV: Thanks very much. With regard to 1.7, the regional Commonwealth of communications believe that the need for telemetry spectrum for TT&C for non-GSO satellites of short duration flights should be in realistic plans for development of such satellite systems. So we also need to distinguish scientific commercial and amateur applications for such systems. We believe that it is possible to meet the TT&C spectrum needs due to exist in allocations to the space exploration service as well as to other systems, operating short duration satellites in frequency bands below one gigahertz. We believe that if existing allocations are used when new allocations are made for the exploration service below one gigahertz for TT&C our purposes with regard to non-GSO satellites then existing services need to be protected in identical or adjacent frequency bands. With regard to specific proposals we experience difficulties with regards to the 150.05 to 154 megahertz band. And 399 to 410 megahertz band. Because well, these bands are used by risk services. So including space sat com sats it is used on a primary basis by meteorological services for rescue at sea, and certain segments are also actively used by ICC countries for MSS and EESS services. Thank you.

>> CARMELO RIVERA: Thank you. In the interest of time I will again plead that we are just at preliminary view status in CITEL. The preliminary views are subject to the outcome of compatibility studies. We consider supporting new allocations and upgrade to existing allocations. Keeping in mind the

regulatory conditions that do apply. I will say that since we do have a meeting coming up next week we do have a policy that all of our output documents will be available on the CITEL website without the need for user name or password. So shortly after the end of the meeting next week I would recommend looking for some updates to our preliminary view status and the status of our preparations.

>> GERLOF OSINGA: Okay. Thank you. The agenda item 1.7 was proposed by CEPT at WRC-15. This is to decay the growing number of non-GSO satellites, small satellites and non-Pico satellites. As indicated growth has been a major contribution factor to the growth of number of satellites recently launched in general. The lifetime is generally short and we see that it is shorter than three years. Some development in commercial operators is planning to launch as many as a hundred in a single launch for a single application. So the impact is quite significant. The application of these small satellites vary widely and they all need TT&C. Some issues that we see is that the existing allocation of the space operation service may not be able to absorb the influx of these satellites without problems. All existing earth to space allocation below one gigahertz as mentioned by previous speakers are acceptable to Article 9.21. Due to the long time, are not suitable for development of these short duration mission satellites.

The position that we have is that, of course, we are in support with the provisions that we like to see that studies of the spectrum requirements are based on real plans for satellite constellation developments. To cause spectrum requirements show the need for additional allocations or the upgrades. We recognize that we have to take in to account agenda items 1.2 and the cochannel sharing between earth-to-space links to non-GSO and GSO DCAs is not feasible in the band 401 to 403 megahertz. Furthermore, we provide some clarity about bands that from our perspective have been excluded. That concerns the band 154 to 156 due to the incumbent services, radio location services and also exclusive -- exclusion to band that's been used by a (inaudible) including adjacent frequency bands. Furthermore, the bands that are used for the radio astronomy, 155 to 163, these are not feasible. And given time I'll just leave with that. Thank you very much.

>> KHALILOU NIANE: This is an item that deals with the spectrum requirements of satellite services and for space operation services for telemetry tracking and command. And for this item we have already identified some issues. The first is that existing allocations, so for those above one gigahertz which Article 9.21 does not apply is not suitable for short duration missions. The second issue is that there are other

frequency bands that have already been allocated for SOS under one gigahertz for which 9.21 does not apply. In light of all this the ATU has decided to support the ongoing studies and the ATU would urge other administrations to contribute to and participate actively in these studies in order to ensure the protection of existing services particularly the ongoing space services that function in bands 406 to 420 megahertz. Thank you.

>> With regards to the position of the Arab group in relation to item 1.7 there is support from some Arab countries to -- that have to do with telemetrics and control at a distance by using the non-GSO satellites. For the short term satellite missions. While emphasizing the need to protect current services. And this support from certain countries is based on the fact that there are requirements by certain regulators to use such services. And in nonallocated bands, so we need certain allocations for such users. Some administrations believe that current studies have to be pursued in order to determine future positions. Thank you.

>> ATMADJI SOEWITO: Regarding the last point, APT, you have no constrain, it is close to incumbent services and the future of development will not be helped. There are also some notes regarding the frequency bands which are not to be considered. One is for the Maritime mobile communication. Second is for the global subset. And the third is the frequency for EESS. Thank you.

>> BRADFORD KAUFMAN: Thank you. We have heard from everyone. Unfortunately looking at the time this was the end of our session. So I would have to ask if we have time for one question. Okay. We are being given a little bit of time. So does anyone have any questions? Okay. Does anyone have any questions on 1.2 or 1.3 since we do have a few minutes? Okay. No one asking for the -- having a question. With that I thank our panel and I appreciate your attention. So thank you. This ends this session.

(Applause.)

>> KHALID AL AWADHI: Thank you very much, Brad, for this interesting session on science issues. Now we will have a 15 minute coffee break and we will resume at a quarter passed 10 for the next session on satellite issues. Thank you very much and see you soon.

(Coffee break).

>> KHALID AL AWADHI: Ladies and Gentlemen, if you would please take your seats, we will start in two minutes. And I would like to invite the panelists for this next session on agenda items 1.5 and 1.6, if you could kindly join us on the podium.

So welcome back to this second session, session No. 5 of the

workshop. Second session of the morning. We will be addressing the satellite issues on the WRC-19 agenda, at least some of them because again due to lack of time we cannot cover all the issues unfortunately.

But with the advice from the Chairman, Chairman of Working Party 4A who we have the pleasure to welcome with us for this session, Mr. Jack Wengryniuk, we will start by addressing agenda item 1.5 and 1.6 and then I will immediately give you the floor, Jack to start this session. Thank you.

>> JACK WENGRYNIUK: Okay. So good morning, Ladies and Gentlemen. Welcome to the second session of this workshop for the second day. My name is Jack Wengryniuk. I'm the Chairman of Working Party 4A which deals with the efficient use of the satellite orbit and spectrum for the fixed satellite service and broadcast satellite service. It should come as no surprise that we are going to be talking about satellite issues today. My plan is to deal with 1.5 and 1.6 agenda items separately because they are really quite separate and give a short background on the agenda item and then I am going to turn it to an industry proponent to understand why it is important and then turn to regional groups. I will do that for 1.5 and 1.6 and then I will turn to the new panelists. We are looking at considering the use of the for so-called earth stations in motion or ESIM. This is the not first time that the ITU has addressed an issue of this nature. You recall at WRC, ESVs it was in lower frequency bands but same sort of an idea, that you have earth stations that are moving but they are operating in the fixed satellite service. And there the solution that was arrived at that WRC was so-called Resolution 902 and you will understand why I am mentioning that in just a few minutes. At the last conference, at WRC-15 we effectively dealt with with this same issue, the 197 to 20.2 and 29 to 30. Those two pieces are essentially allocated to only the fixed satellite service. It was a pretty approachable issue even though it is quite contentious at the conference but a solution was arrived at in the nature of Resolution 156.

So now we are looking at expanding what was agreed at WRC-15 in to the remainder of the 20/30 gigahertz bands. Why is this important and I would like to turn to an industry proponent to help us understand a little bit of the background of the significance of this issue. Mr. Bashir Patel from Inmarsat.

>> BASHIR PATEL: Thank you very much Mr. Chairman. And good morning, to everyone. I think yesterday Mr. Chairman, we heard from the mobile industry that we have 7.7 billion mobile handsets in use. Tremendous success. And thanks to the work that's been going on in the ITU.

So we note this substantial growth and demand for mobile

broadband services and clearly these devices will also require broadband connectivity, particularly when you are in the air or on the high seas or the train over land. Today we have airlines operating on moving -- and other moving platforms apart from airlines, other moving platforms which basically suggest you bring your own device on board the aircraft or vessels and so on. And they will offer connectivity in flight. So mobile broadband connectivity through earth station in motion is critical for operations in such an environment. Primarily ESIMs are there to provide that connectivity. ESIMs is very much focused on moving platforms where broadband connectivity is not available today. As you mention in terms of the deployment and use of the KA band at the WRC-15 the Resolution 156 adopted the regulations to facilitate the operation of ESIMs in the band 29.5 to 30 gigahertz in the uplink. And 19.7 to 20.2 in the downlink for FSS. Today what we have is KA band ESIMs are in operation on various types of moving platforms of our estimates are 5,000 growing in the region of 20,000 over the next few years maritime ocean going vessels, including cruise ships, we have vessels in the region of 20,000 growing to somewhere in the region of 50,000 over the next three, four years. We have the land based vehicles such as train long distance train journeys and so on. And their usage is increasing given the growing market demand, generated by users for having broadband connectivity on these moving platforms. So we have a situation here Mr. Chairman, that clearly there is a user demand to have broadband connectivity. Whether you are at home or you are moving on a platform it be an aircraft vessels or trains and so on. From KU and KA bands ESIMs are coordinate the between the satellite network operators. The terminal specification for ESIMs the European standard body develop specifications to ensure control of ERP density levels produced by the terminals as well as the pointing accuracy and automatic shutdown and terminal monitoring by network operators. ESIMs will continue to preserve this two degree spacing requirement while we ensure that more efficient use of FSS spectrum to introduce these new and highly valued services. From a regulatory perspective it is important that we have harmonized regulations that are adopted to guide the authorization and operations of ESIMs in an efficient manner. There is a real need for ESIMs regulations to cover the two gigahertz both in the uplink and downlink to provide flexibility and sufficient spectrum to meet the future growing requirements. Mr. Chairman, given the need we have for sharing with other services within these bands identified in 1.5 there is a real need to ensure that we have flexible access to these bands in order tore provide maximum flexibility for ESIMs to share the spectrum with other services existing services and

applications. Provide KA band satellite operators to provide ESIMs services and to maximize the efficient use of the arc in the band. We will continue to work on ongoing studies to satisfy the agenda requirements such that the Working Party 4A is in a position in the future to develop general consensus on a possible WRC Resolution along the lines of a Resolution 156 that could serve as a method to address this particular agenda item in the future. Thank you, Mr. Chairman.

>> JACK WENGRYNIUK: Thank you very much. So now I just want to give you a very high level summary of where we are in the studies. You can refer to document 8 on the ITU Web page. Where I have a presentation that I have put together a more detailed summary. So now you have heard we have land based, maritime, aeronautical. So three different types of ESIMs and mobile service and fixed service and you have MSS feeder links. So you have this matrix of different combinations that need to be studied. The results of the study is being analyzed. But there is a general consensus that we could resolve this issue at the WRC along the lines of what was done for Resolution 156 for the land based and the aeronautical and along the lines what was done for Resolution 902 for the maritime. There are lots of details that need to be worked out. But having gone through this before with different scenarios we are hoping to benefit from the experience gained in doing that work.

And again I would refer you to the Chairman's report, the various annexes and to the input to this meeting for further details on where we are with the studies. So with that I would now like to turn to the regional representatives. We will make our way down the row, please introduce yourself and give us an understanding of where the regional groups are on this.

>> MUNEO ABE: Good afternoon. My name is Muneo Abe. APT's view on this issue is found in document 4, part 4. And our regional views was created in APT 2 which was held in July, that before the latest Working Party 4A meeting. Our views is APT members support ITU-R studies for regulatory issues and conditions on sharing compatibility between ESIM and ESIM services. To ensure the protection of and not impose undue constraints on the existing services and their future development.

We noted the complexity of these issues. In addition to three styles of operation, that is land, maritime and aeronautical area, there are lots of players including administration responsible for filing satellite operators and administrations giving licenses or ESIMs. So this -- we consider this issue is fairly complex. And concerning how to ensure the protection of existing services we count much on the progress of Working Party 4A studies and I saw lots of progress was made at the last

meeting. I congratulate Mr. Jack Wengryniuk on this aspect. And some APT members are actively participating in Working Party 4A. Some are monitoring but we are following the progress of Working Party 4A. And I'm sure we will update this -- our preliminary view in more say progress way, yeah, at the next meeting. Thank you.

>> MOHAMMED SOLIMAN: Good morning. My name is Mohammed Soliman. I come from Egypt and I represent the ASMG group for this meeting. Now with regard to our group's position on item 1.5 of the agenda, this is an item that has required an awful lot of work within the Working Party that is responsible for this item. It has taken an awful lot of time and effort within the ASMG as well it is not an easy item. It requires an awful lot of study. And lots of patience before we can take a decision. Our group's position is that we have no objections to using this item to use earth stations in motion within band 17.7 to 19.7 gigahertz and 27.5 to 29.5 gigahertz. Separated in to three parts, this would include ESVs as stations onboard vessels, on airplanes and on land. Our group invited administrations participating in our group meeting to look at the uses of these services that are allocated within the -- these frequency bands for earth stations in motion. Be they on ships, airplanes, or on land. However, our preliminary position which is not yet definitive of our group is that we should not introduce any change in to the radio regulations with regard to the frequencies that are under study and that relate to earth stations in motion. And our definitive position will be decided at forthcoming meetings. Thank you.

>> ADDMORE MATARE: Zimbabwe is where I come from. I'm the ATU Rapporteur for agenda item 1.5. My name is Addmore Matare and I hope I find you well. On this agenda item, two subregions has done quite a number of surveys to take a stock taking of utilization of the event with any room. After the survey the three technical studies focusing on the fixed service vessels, the ESIMs that is for all three aeronautical, land and maritime have been carried out in the -- in Africa and the three studies that have been carried out showed that both the long and the short term interference criteria is not acceded. We have ERG who did the studies within the 17.7 to 19.7 gigahertz band and the 27.5 to 29.5 gigahertz, they have done the receiving band of the ESIM. That's the 17.7 to 19.7 and continuing with the 27.5 to 29.5 gigahertz band. We also have one other study from Senegal covering 17.7 to 19.7 gigahertz.

Two of these studies have been submitted to Working Party 4A, meeting that was held in October. And ATU is participating actively in the ITU Working Party 4A studies and it is a way that there is a possibility to solve this issue through a

Resolution.

The position of ATU is to support operation of ESIM in 17.7 to 19.7 gigahertz band and 17.5 to 29.5 gigahertz while ensuring protection of and not imposing undue constraint on other existing and planned primary services allocated in these frequency bands. I thank you.

>> STANISLAVA TERESHCHENKO: Thank you very much. Good morning, Ladies and Gentlemen. My name is Stanislava Tereshchenko. I am a chairperson of project B, this group is responsible for satellite issues in CEPT. And I would like to start with some general comment. Actually the position you can find related to the satellite issues and document 5 was developed in September and, of course, it will require some slight updates after the recent meetings of 4A and 4C. And with regard to agenda item 1.5, we have very detailed position that actually takes three slides. And to save our time I will just talk in some general considerations and highlights to give you idea what's going on in CEPT.

I may say that this agenda item is very high interest in CEPT. We have a lot of discussions. We have a lot of contributions. Both from administrations and operators and we try to analyze and consider them and then forward it to ITU-R as CEPT multi country contributions. And in general we are -- we try to base our considerations on experience of previous conferences, like Resolution 156 and 902. Together with our interregional experience because in CEPT we already have some regulatory documents that regulates the use of such type of stations.

So, of course, CEPT recognizes that a special care will require to protect terrestrial services in 27.5 to 29.5 gigahertz. In that respect together with other technical and operational conditions on CEPT views we see that maritime is -- will require minimum distances from low watermark. Officially recognized by coastal states. Aeronautical we suppose that PT limits at earth is your vase will be required to be developed. And for land you seem operating within a national waters, CEPT views is no specific regulatory actions. However we think that further clarifications on various regulatory aspects are required such as responsibility of administrations and operators with regard to coordination licensing and interference issues.

So thank you very much.

>> CHANTAL BEAUMIER: Good morning, everyone. My name is Chantal Beaumier and I'm co-Chair of the Working Party that is looking at satellite matters within CITEL. My co-Chair from the United States is not able to be with us today. There is some commonality of views in some areas and further discussion is needed in other areas. And as other speakers have said it is the

same situation for CITEL that views don't take in to account the latest results from Working Party 4A. And we do expect to set at our meeting next week additional views and some proposals to be brought forward on these issues.

So specifically on 1.5, administrations of our support studies but there is some differences in terms of the views that have been expressed so far. So one administration, for instance, stated that sharing and compatibility study the between ESIM and FSS networks should include demonstration of geostationary and nongeostationary. While other administrations stated that before defining use of the frequency bands or any portions of these bands for ESIM operation the study should address operations in motion to protect the provisions necessary to ensure protection of existing and planned services. Thank you.

>> NIKOLAY VARLAMOV: Thank you, Mr. Chairman. Good morning, colleagues. My name is Nikolay Varlamov. I'm deputy Chair of the Working Group of the RCC for the preparation for the WRC-19 and the Radiocommunication Assembly. The RCC position with regard to this item of the agenda as of September 2017 is published in document 16. So you can avail yourselves. Our latest meeting that prepare for the conference was held last September. So not all of the results of the meetings, so for Working Parties 4A and 4B could be taken in to account. But the main provisions still stand. The position of our regional organization both in Russian and in English is published at the RCC website. So you could see for yourselves our latest with regard to 1.5 of the agenda we believe there is need to develop technical operations. With regard to the ESIM stations which is necessary for meeting the production criteria with regard to services in these and adjacent frequency bands. In terms of methods for shared use of this frequency bands for ESIM services frequency segmentation or for density limitations could be used for maritime stations. This could be minimum distances from shore or combinations of other methods.

We believe that what is very important when developing regulatory provisions is to look in to special measures that would rule out and sanctioned use of ESIM in majority of states which have not issued the necessary permissions. That is directly linked to 1.7 of the agenda. And we need to take in to account these studies ongoing under Study Group 1 and its Working Parties. Thank you.

>> JACK WENGRYNIUK: There we go. Before I turn to the floor for questions I think we will do 1.6 and then I'm hopeful there will be some time for questions on either 1.5 or 1.6 before we change panels. Okay. One question. Iran, please.

>> ISLAMIC REPUBLIC OF IRAN: Thank you, Chairman. Good morning, to this English -- yes, we came here and spending our

time and we want to benefit the presence of our Distinguished Colleagues from the regional organizations. Let's separate 1.5 and 1.6. I have one question and one comment. In the ITU regulations in order to protect the terrestrial services there are two different regulatory regimes. One is PFD protecting the area or service and the other is 9.17 and 9.18 protecting the assignments. No one up to now has addressed the second one. We receive PFD and PFD. Yes, PFD is one. We should not substitute or ignore 9.17 and 9.18 in PFD. They are complimentary to each other. This is one point. Second point Distinguished Colleagues mentioned today undue constraint. We don't understand, what is the due constraint. And what is undue constraint. This vague and we should avoid to use that. We should quantify that in acceptable provisions either in the recommendations or report but not undue constraint. And the Radiocommunication Bureau sent two contributions to WRC saying for them it is not impossible for them to constrain undue constraint. If possible not using that term anymore.

Now coming to the situations, Chairman, you said very clearly for the onboard vessel we have a distance. There was a time in 2015 to replace that distance by the dynamic PFD but it was failed. So let us get experience of two conferences and not go back to the PFD for missing maritime. It doesn't work. We have to rely on distance. With respect to the maritime on earth or land maritime, land ESS it is impossible to talk about coordinations unless we have discussed the coordination's responsibility. If you have a country A who is responsible for the coordination? Satellite operators? So that country is responsible for coordination of that with all neighboring countries. Our country has 14 neighbors. If you authorize this ESIM and there is interference who is responsible to deal with our neighbors? We. How we do that? We have no way today to do any coordination with this typical or what you say mobile earth stations on the ground. There is no provisions. How to do that? On the earth much worse than that. Currently there is no provision in radio regulation to protect the assignments from the aeronautical mobile earth station. Operating within fixed satellite service. There is no provisions. So we have to -- that is why Resolution 156 talked about that noninterference basis, that is the only way. But unfortunately people trying to override that. Unfortunately we have a very competent person also here, Mr. Mario Neri who deals with item under agenda item 1.5 in your group and he is very, very competent to deal with that. He wants to implement Resolution 156 to take set possibility on this. Some other colleagues they don't want to do that. Unless and without clarifying the coordination requirement it is not possible to do that. In our

view Resolution 156 is a basis of that and we have to base 1.5 agenda item 5 based on that Resolutions. There is no interference and a commitment by administrations if interference curse must be reduced or must be seized as soon as possible. This is our views and I think we could understand each other otherwise we have various difficulties. PFD does not work. Earth stations elevation angle changing, mobility is changing. May not be applicable. For second type protection of assignment PFD is not sufficient. We have to have assignment to the earth station in the opposite directions. 9.17, 9.18. Thank you very much.

>> JACK WENGRYNIUK: Okay. So he is trying to appreciate the complexities of this particular agenda. It is quite complex and I would encourage you to attend Working Party 4A and to engage in the discussions on this issue.

Okay. So in order to keep moving let's now move to agenda item 1.6 which is to consider the development of a regulatory framework for non-GSO FSS in various what I will call the 40-50 megahertz. Space to earth, and 47.2 to 50.2 and 50.4 to 51.4, earth to space. Back in the 1990s we went through an exercise where we addressed non-GSO FSS in a number of lower frequency bands and a solution was to come up with something called PFD. That has served us quite well since the '90s and now we are looking at these higher frequency bands and trying to find solutions that may be applicable there. And so my question to our industry representative would be why these bands and why now. So please Audrey Allison from Boeing.

>> AUDREY ALLISON: That you. And we see agenda 1.6 and the development of 40/50 megahertz is essential to the communication of the satellite industry and the key to development of the next generation of services. This arises out of technology development phased array antennas, beam forming techniques and digital processing. These things that have been developing now we feel are ready for commercialization and at the same time as we have heard with respect to other items we have the rising need for bandwidth capacity not only in urban centers but in the remote and rural areas that are underserved or even unserved. These new satellite systems that are potentially available to go in to the spectrum region will be a key to solving these difficulties that have been frustrating the ITU for a long time.

So this band is essential not only to geostationary satellite systems but for these newly proposed non-GSO systems. So V band or the 40/50 band is the new frontier. And the spectrum which is essentially green field is ready for settlement. And to be put in to productive use. So we have agenda 1.6 and the thing is that allocations are already there. It is already allocated to the fixed satellite service. However we are lacking the

regulatory provisions to really build out the service, particularly for nongeostationary satellite systems to share with geostationary satellite systems and the criteria for sharing to ensure that you can have a robust implementation of the bands by these new nongeostationary systems but to ensure the protection of geostationary satellite networks. That's the bedrock criteria for us going forward many we are looking for regulatory certainty for the next generation of systems and we are working through Working Party 4A right now to develop a new recommendation because the existing one only goes up to 30 gigahertz. So a new recommendation on technical and regulatory provisions for sharing between geostationary and nongeostationary FSS systems and key to this is taking in to full account the unique propagation characteristics that you find at the -- in the millimeter wave bands that are very different than we have studied before with regard to the KU and KA bands. So a lot of interesting important work is going on there in this regard. So the current studies that are underway in Working Party 4A do all demonstrate there is a possibility of efficient spectrum sharing between NGSO and GSO systems in these frequency ranges. Sharing methodologies have been identified to advance maximum spectrally efficient sharing to ensure the cofrequency GSO FSS networks are protected and we are looking though for opportunities with the new technologies we will be using and these different propagation characteristics if may be new mechanisms that will be available at this band that haven't been tried before in the lower ranges. So we are working with the other proposed NGSO operators and regulators on these technical studies and on the merits of whether we can come up with a more flexible approach that will perhaps allow more systems to be introduced and to have -- be able to welcome different orbits, Leo, Meo systems, different sorts of designs of constellations to allow maximum use of the resource which is what Working Party 4A is all about.

So we are working together to find these new ways of sharing. And that that's just happening now in 4A. There is a lot of work to do. The draft CPM text talks about three different methods so far but these will be flushed out in the upcoming meetings and we are very excited about the potential of these frequency bands and these innovative new services to really bring about a complimentary service to fulfill the broadband needs of our populations and be a key compliment to other solutions that are being planned for broadband. So that's our view. Thank you.

>> JACK WENGRYNIUK: Okay. Thank you very much, Audrey. So yeah, there is one common thread between both of these agenda items and that is the allocations are already there. We are simply looking at ways of expanding the use of the allocations

by the satellite services which will increase the efficiency of use of the allocations. In order to save some time I won't say a lot about the studies that are ongoing. Audrey mentioned some of the CPM text and some of the different methods that you will find when you look at document 8 and when you look at the various annexes to the Chairman's report. There are over 200 pages of text in the annexes associated with this agenda item and likewise for 1.5 you see over 200 pages of text. I would refer you to the powerpoint presentation here and then further on to the various annexes of the Chairman's report for the details.

So let's then turn to the regional representatives to hear what's going on regionally on this agenda item. So let's start at the far end for ATU. Please.

>> BASEBI MOSINYI: Good morning. I am Basebi Mosinyi. I am presenting on agenda item 1.6. As you already know, in September in Senegal, Dakar. The outcome of that meeting regarding this agenda item is as follows: ATU agreed to support studies under Resolution 9 which aims at developing a regulatory framework for new non-GSO FSS systems while protecting the GSO systems in the frequency bands above 30 gigahertz. ATU also agreed to encourage administrations to contribute towards further development of the working documents in Working Party 4A.

ATU also notes that the overlap in the frequency bands with other agenda items should not be an issue because this agenda item does not involve spectrum allocation or identification but rather regulatory framework for non-GSO FSS systems in the stated four bands. Thank you.

>> Thank you, Mr. Chairman. While considering this agenda item we believe that it is necessary to ensure the protection of GSO satellite networks which operate in fixed mobile and radio broadcasting satellite services. We also believe it necessary to ensure the protection of stations of other radiocommunication services both in these and adjacent frequency bands. I mean the EESS passive services and radio astronomy services. Also when examining this agenda item we reflect on the fact that the use of FSS nongeo satellite need to follow a certain set of rules. Have certain procedures. Non-GSO services would be compatible among one another and to support their noninterference use in this frequent city bands. We also believe it important to study the impact of aggregate interference from both GSO and non-GSO systems to ensure the protection of EESS satellite services.

With a view to do that we may have to revisit Resolution 850. We also believe it necessary to conduct studies on the methodology of assessing interference. At the moment that methodology is contained in recommendation MS 1323 and that recommendation applies fortunately only up to 30 gigahertz. We

believe it necessary to generalize that methodology to frequency bands above 30 gigahertz. Perhaps we all need to develop new -- a new recommendation which would make it possible to take in to account the correlation between the fading in hydro meteors of both useful and intermediate signals, taking in to account the EU's measurement statistics for the tracking and control in the 40 to 50 gigahertz bands. Thank you.

>> CHANTAL BEAUMIER: At CITEL we have a number of administrations that are quite engaged in to studies being conducted in to Working Party 4A and that's why you see indications that they support these studies. One in particular also put forward some views specifically on the protection of passive services EESS passive services in adjacent bands and for the band 36 to 37 gigahertz is of the view that the two systems are compatible and that no regulatory measures are required to address the compatibility between these services based on studies that have been presented at 4A.

With respect to the band 50.2 to 50.4 gigahertz, not able to make that conclusion just yet. So I would feel that mitigation techniques and/or regulatory measures may be required to ensure compatibility between the passive EESS systems operating in these bands and non-GSO FSS systems. Thank you.

>> STANISLAVA TERESHCHENKO: Thank you very much. So with regard to this agenda item CEPT position is not set long. So I will try to keep it as close as possible. So first of all, CEPT is only view that results of studies under agenda item 1.6 shall ensure protection of geo satellite networks and stations together with other existing services also including passive services in adjacent band and ensure the protection of passive services CEPT supports the study to aggregated affect from FSS interference from GSO stat lite networks and non-GSO satellite systems. CEPT considers that the criteria based on a new ITU-R recommendation shall be used while developing the aggregate limits for protect GSO networks. And CEPT also supports methodology of interference assessment that takes in to account the correlation between a fading event and both wanted and interference signals also should be taken in to account. So that's it. Thank you very much.

>> NIKOLAY VARLAMOV: Thank you, Mr. Chairperson. With regards to item 1.6 of the agenda the Arab group believes it is necessary to protect the fixed satellite services either by appointing an appropriate level of the EBFD or any other measures of protection that might be appropriate. According to the results of the technical analysis of the models in the band frequencies that are higher than 30 gigahertz.

And in this context the Arab group administrations and in consultation with the providers of satellite services in the

member countries to identify the appropriate EBFD which would guarantee the protection of fixed satellite services in the fixed orbitals, the GSO with regards to the proposed mechanism. Taking in to consideration that this band, this item doesn't include certain common frequencies with 1.13, the item 1.13 of the conference's agenda. Thank you, sir.

>> MUNEO ABE: APT members support studies on technical and operational issues and regulatory provisions of non-GSO FSS satellite systems. While ensuring protection of GSO satellite networks in FSS, MSS and BSS and other existing services.

As well as protection of the ESS passive and the radio astronomy allocated in nearby frequencies. Again our current preliminary views were developed at their -- before the last Working Party 4A meeting. We saw many progresses in the discussion of Working Party 4A. We will update our position at the next meeting. And also we noticed that the bands considered under agenda item 1.6 are completely overlapped with those of agenda 1.13. Concerning this overlap of frequencies we will discuss at the next meeting as to whether or not we will have some positions about this aspect. Thank you very much.

>> JACK WENGRYNIUK: Okay. So thank you very much panelists and regional representatives for those comments. As far as the overlap in frequency band, I think we have a session later today to address that. Perhaps that will provide some additional information there. So it is 10 after 11. I would hesitate offering the -- opening up the floor for questions because we still have agenda item 7 to get through of is there any burning question or comment that anyone would like to raise having heard the presentations on 1.5 and 1.6?

No. Okay. So then I would thank the panelists and let's do a quick level switch. For those of you who are staying stay and we have a couple of new panelists to come up. We will take a one minute break as we change people around.

(Applause.)

>> JACK WENGRYNIUK: Okay. So here we are. So now we have agenda item 7 which those of who you are familiar with it understand it is a bit of a different animal than your standard agenda item. It basically is fairly wide open in terms of the issues that can be brought for improvements to provisions in the radio regulations, to fix maybe mistakes that were made in the past or to make wholesale changes in some cases. So it is really a unique situation. You have seen at the last several conferences it has been quite a consumed quite amount of time at the WRCs. And it appears that it may be the same at this upcoming WRC as well. What we have done in agenda item 7 as issues are brought forward that the group discusses them and we make a determination as to whether it is more lack of a better

word worthy of being a classified as an issue. We currently have issues A through K, we letter them to make it easier to refer to them as we have done in the past. So A through K makes it 11 but then if you aren't careful and you look at the issues you see that there are several subissues under some of the issues. For example, if you see C has 7 subissues. Maybe 11 is a bit of a false count. Rather than to discuss all those issues I would refer you to the Chairman's report from the last meeting of Working Party 4A for a full treatises on this issue. I thought I would bring forward the four issues that have generated the greatest amount of discussion in Working Party 4A and those are what we are calling A, E, F and G. Starting with A, compliments of the director's report, the BR noted there was some rather large non-GSO systems, mega, that would being filed and across a very, very large amount of spectrum. And there was concern that with the current practice of essentially the launch of a single satellite bringing in to use and there could be some potential for misuse of the bands by these very large systems. And so there was a suggestion that perhaps some milestone approach could be adopted to make sure that these rather large networks or systems continue to be deployed. So that's what's been discussed inside of Working Party 4A. There seems to be agreement that the current practice of launching a single satellite in to one of the notified overall planes is good enough within the 7 year period. But then what do you do after that? Is there a milestone approach after that. And before the last meeting we had six different methods. The last meeting was successful in basically merging those in to one common approach which has four options and the options basically are things like how many milestones, three or four. What percentage of the system needs to be deployed at each of these milestones. When do these milestones take place. At what point in time. Two, three, four years, et cetera. And again I would refer you to the details of the appropriate annex to the Working Party 4A Chairman's report but it does appear that we are converging on a coherent solution at this point. Some of the issues that still need to be discussed are to which types of non-GSO systems should these milestones apply. It was really these very large systems spanning, you know, great swaths of spectrum that generated this topic should this approach be limited to those systems or applied across the board. In what frequency bands should it apply. Is it again subject -- should it only be subject to certain frequency bands or again a common approach across the board. These are issues that need to be addressed within Working Party 4A still. We want to make sure that the solution fits the potential problem. And then finally if the WRC does agree on some sort of milestone approach then what happens

to those systems that are brought in to use before the end of the WRC. There needs to be some transitional mechanism that may need to be put in place. That is recognized as an issue that needs to be addressed but we haven't had a wholesome discussion on that topic. I think we have to go through these one by one. If we can quickly go down the row to get an idea from the regional groups as to what they are thinking and then I will turn to the BR to see if this will be useful to them. This is where it all started. Please.

>> MUNEO ABE: APT, when we discussed this issue there are six methods included. But Working Party 4A successfully converged those six methods in to one method with some options. And our preliminary view is just support the ITU studies related to regulatory provisions and procedures. And concerning the BRU of the filing, although some members support the current BR practice studies once secure the whole filing, saying the BR practice has been successfully applied without a problem. But one person said it does not reflect the split of the sufficient usage. But this option was killed by Working Party 4A, I believe. And there is one opinion raised, I think it is valid to note, the methods should be 6 with a following -- with a balance of the following three issues. One is a prevention of spectrum warehousing. Second is proper functioning of coordination mechanisms. And third is operational requirement of non-GSO systems. We need a balance among those three issues.

Okay. I should be quick. Thank you.

>> MOHAMMED SOLIMAN: Thank you. At the outset I would like to clarify that in the meeting of the group that was responsible for this band that is to say 4A last October, many amendments were brought about and new issues were introduced that had not been included in the former agenda because the last meeting of the Arab group was in April. However I will try to inform you of the latest developments with regards to the Arab group when referring to some of these questions. With regards to issue A, the Arab group does support the principal idea of putting some clear principles in the radio regulations with regards to the use of the non-GSO systems as is the case where the regulatory situation of the fixed satellite systems and the Arab group does request to follow up on the studies carried out on the choices that are being made by the Working Group that is responsible for studying this band while emphasizing that we have to achieve the following objectives, then there is a compatibility between the use, the proper use and fair use of the orbital positions of the non-GSO systems. And the other satellite systems. And we -- and we should not allow for any misuse with regards to the notification procedures about the non-GSO systems that are being used. And without imposing any complicated regulations that

cannot be met. Also the Arab group consulted the radio bureau, the BR about the means necessary to ensure there is notification of the use of certain non-GSO systems and also the choices that are available. And the Arab group also supports the decision of the radio regulation with regard to having temporary system -- provisions with regards to the BRU. And these regulations have to be amended according to the results of the WRC-19. Thank you.

>> MANDLA MCHUNU: Good morning, to Distinguished Delegates. My name is Mandla Mchunu from South Africa. I'm here presenting ATU. On the issue A, BRU of GSO system, I took note of the milestone approaches must favor the option at this stage and that at the time of studies we are focusing on GSO FSS system and also taken note there are proposals that share studies to certain types of NGSO systems.

ATU will continue supporting the studies to find a solution that prevents spectrum warehousing while not restricting developments of NGSO systems. Thank you.

>> STANISLAVA TERESHCHENKO: Thank you very much. My name is Stanislava Tereshchenko. And I would like to refer you to input five to this meeting where we have the CEPT positions listed in slides -- starting at 42 and it is two slides for issue A because we have developed an essay on this. So it is pretty detailed. And parts of it describes the milestone based approach that we support and so we are very happy with the latest development and 4A, we think that the milestone based approach should be associated with a minimum number of satellites to be deployed. We think that it should start at the end of the current near regulatory period. So pretty much what we have discussed at the last meeting. We have also noted down the principles in our decision that we also in accordance with other regions seek a balance to prevent spectrum warehousing with milestone based approach. And we need to take in to account the operational requirements when deploying a non-GSO system. And we think that this approach gives regulatory certainty and gives recognition that it takes time to fully deploy such a system.

However I would also like to share some other parts of our long preliminary positions that are not covered by the milestone based approach. That we did develop before the 4A meeting but they are still relevant. So first we support that the studies under this issue apply to FSS, BSS and MSS. As Jack mentioned specific bands and services are still being debated in 4A. So that's our preliminary position on it.

Secondly, CEPT supports that we adopt one unique method to address this issue. Encompassing all kinds of constellations and not different solutions for different systems. And thirdly we

support that we adopt a new Resolution addressing the principles and method ol low gee, at the conference. Fourthly we note the established rule of procedures and we consider it as necessary interim measure that should be addressed after deciding on this, of course. And systems brought in to use before the conference that are then in compliance with these rules of procedures. They should also be subject to the milestone based deployment approach, including transitional measures as needed. And finally, we support also the latest development in 4A when we tried and succeeded to simplify this complex issue, trying to reduce the number of options ahead and more clearly target the mass based approach. Thank you.

>> CHANTAL BEAUMIER: Thank you. I didn't finish writing my notes. Oh, well. I guess I will have to ask you questions after. Okay. So at CITEL there has been some discussion also about the milestone approach and there is an administration that put forward the view indeed that, so that approach would be appropriate solution to deal with the deployment of large non-GSO constellations. I guess we are going that direction already. And it emphasized the need to also adopt a balanced approach taking in to account financial technological and planning challenges both by the multiple launches required to deploy this type of a constellation. But also to need to prevent as others have said any abuse to merely spectrum reservation. Thank you.

>> NIKOLAY VARLAMOV: Thank you very much Mr. Chairman. Before I share our views about our position I would like to say a few words about item 7 on the whole. Beginning with latest conferences, we have in considering a large number of issues under item 7 usually more than 10 such items or such questions. And so when these issues or questions have already been looked in to the sufficient detail before the conference they don't give rise to much difficulty. But when new questions are tabled at the conference either or when following the CPM two new questions arise. Quite often administrations find themselves with not you enough time or resources to prepare themselves adequately. That's why in our organization we have been considering various methods aimed at making work of administrations under item 7 more efficient.

In particular we tried to see to it that there's some kind of time limit. For example, the deadline of CPM 2 for the identification of new issues. Clearly administrations are entitled to bring any proposals to the conference, including those touching on new questions. If the conference is in a position to resolve those issues, fine, wonderful. But if not, clearly then there the Resolution of such issues needs to be postponed until the next study period on the basis of

contributions received.

So those are a few general remarks I wanted to make with regard to item 7. With respect to issue A we are at RCC have been examining various methods for stage by stage BRU for multi satellite systems, of FSS and MSS and of the radio broadcasting satellite service.

We believe that such stage by stage BRU bring in to use should apply to a specific frequency bands. And to -- we need to requirements for stage by stage BRU, frequency assignments depending on the constellation of such systems. The number of orbital planes, the number of satellites in various orbital planes with regard to simple systems, which are not multi satellite. Do not contain a large number of spacecraft. We believe that existing rules of procedure could be used for the -- bring in to use of such systems as well. And finally, believe that the stage by stage BRU procedure should not be applied to satellite systems which are used for safety purposes, human safety, safety and security purposes or various scientific applications of unique nature and with unique missions.

Thank you, Mr. Chairman.

>> ALEXANDRE VALLET: Thank you. And good morning, everyone. My name is Alexandre Vallet and I am head of the space services department within the ITU-R, I started very recently in the BR. I joined it on the 6th of November. Before that some of you might have known me within the French Delegation but that's now finished and I'm not working for all of you.

As was said earlier the BR has launched several issues under item 1.7 and before I enter in to discussions on item A I wanted to touch on what's the BR might expect from administrations in terms of a legal -- a regulatory framework. The first thing that we would request if possible is that we decide on rules that are both -- that you decide on rules that are both clear and precise. Particularly with regard to transitioning from one system to another. From one regulatory system to another.

I'm saying that because then when the bureau has to implement your decisions, we need to make sure we have as much information as possible so that we can fully implement what you have decided. And that is why precise rules and rules on transition measures are required. Now on issue A, here indeed we have noted that Working Party 4A is turning more towards a milestone based system which without doubt would allow us to better define what an accept able BRU would be for administrations. At this stage I would like to remind you that our current practice within the bureaus for BRUs is to accept them for a single satellite. With regard to MSS or FSS, there is one procedural rule which does give details on these types of satellite.

Now with regard to the system that's being envisaged under 4A,

at this stage the BR doesn't have very many comments to make. We will only really intervene more when the regulatory provisions begin to be discussed, particularly their detail. But I wanted just to note that as far as I understand this system, the bureau will need more information to be able to analyze whether the milestones are being achieved and we will also need to work with 4A to define how administrations will provide this additional data.

Apart from that and to respond to the question that was asked, I think that, of course, the work of 4A is very useful to answer the challenges that we met, that we encountered in the past. I, of course, I think there is a lot that still needs to be done to implement the system in a regulatory fashion. But the system is delighted to be able to be able to continue working on this within the bureau with 4A to implement these ideas. So that the WRC can have things that can be decided on very easily. Thank you.

>> JACK WENGRYNIUK: Thank you very much panelists and Alex for those comments. And I would note that the BR actively engages in the meetings of 4A and provides us tremendous, tremendously useful input during our meetings. So I really appreciate the BR support there. So let's now move to the next issue. We have 20 minutes left. That's issue E. Which we are calling in Working Party 4A harmonization of appendix 30B. This started out as several subissues and converged or morphed in to a single issue and that is should we incorporate in to appendix 30B essentially a time limit of 15 plus 15 years for assignments in the list as was done in regions 1 and 3 for appendix 30 and 30A. This is quite a controversial issues in Working Party 4A. There are two I would say almost counter views. One is that the time limit is necessary to respect the resolves 1 and that's on equitable access and the BSS plans and the FSS plan were developed for different purposes. And there are reasons that there are misalignments between these plans and the misalignments were intentional and also if we have a time limit on assignments in the last what happens to a system that's been in operation for 30 years, developing a business, what happens at the end of that period, does it go away or what is the operator of the system to do. That's about all I can really say about that. And let me turn to our panelists to hear the regional views on that, please.

>> MUNEO ABE: APT's views on this issue, issue E as Mr. Jack Wengryniuk mentioned that issue E used to include three actually issues. And APT supports to split these three issues in to separate three issues. And actually that was done at the previous 4A meeting. And remaining issue is just limitation of time of usage for 15 by 15 years. And APT members generally

support to study the required harmonization. And actually some support the incorporation of 15, 15 years limit. And some are very cautious and further study -- they think further studies are necessary. Thank you.

>> MOHAMMED SOLIMAN: Thank you. Regarding issue E, that is between -- it is on harmonization, between AP30B and AP30/30A. We would like to say this issue is still under consideration and under study in the Arab group. We are following up the studies that are ongoing regarding this issue. We will take appropriate decisions later on in future meetings. Thank you.

>> MANDLA MCHUNU: Thank you. On issue E, I took debate the matter and it was felt that we need more time to understand the implication of introducing a time limit. However we came to agreement that to support studies that facilitate Developing Countries access, its access to satellite resources. Thank you.

>> STANISLAVA TERESHCHENKO: Thank you. On issue E CEPT we have a general introductory preliminary position that states that any modification to appendix 30B should be based on practical difficulties when applying the existing procedures. And that's faced by both administrations or the bureau. Further we could support modifications in appendix 30B only in the case such modifications would lead to simplifications of the regulatory procedures while ensuring protection of existing networks. And specifically for the two times 15 years we don't see that coming through. So we would align ourselves with the second opposing view that Jack mentioned. So we do not support introducing in to appendix 30B the provisions similar to two times 15 years. We also in our position have the additional preliminary position texts that are outdated by now. Thank you.

>> CHANTAL BEAUMIER: At CITEL we have had lots of discussions about this particular issue. And it is still being studied by administrations. One thing I should mention though there is a preliminary view that is probably outdated at CITEL and it is more focused not on the changes that you can bring to appendix 30B but on whether or not there would be, you know, changes to appendix 30 and 30A and, of course, as you would probably suspect some countries they are saying if the organization is going to go in the other direction we -- countries in the region, you know, wouldn't want necessarily to see the region 2 plan for BSS to be modified, to aligned with appendix 30B. Having said that if you look at the presentation in document 14 you won't see that. There was a mistake in this particular page on the slide. So we will issue a revision. What you see on issue is actually not the right preliminary view. So thank you.

>> NIKOLAY VARLAMOV: Thanks very much, Mr. Chairman. We believe that the issue of harmonizing the provisions of 30B,

with 30A needs to be examined on the basis of practical difficulties encountered by administrations when trying to apply such procedures under 30B. I would like to remind you of the fact that appendix 30B was reviewed as recently as ten years ago. And so many companies, many administrations have already deployed satellite networks under that appendix. Frequent changes in the regulatory regime with regards to limited, limiting the number of years during which satellite systems may be used as paradoxical. You can imagine two football teams who have come out to the pitch, and in the middle of the game at half time they say that the rules have just changed and they are supposed to have six players each and three gatekeepers. We find ourselves in a similar situation. We are not in a situation to support the number of years for satellite systems under 30B. Thank you, Mr. Chairman.

>> JACK WENGRYNIUK: Alex I didn't know if you wanted to weigh in on this or not.

>> ALEXANDRE VALLET: Not really. Thank you.

>> JACK WENGRYNIUK: Okay. So we have next is issue F. And this concerns what is viewed as a lack of implementation of certain provisions in the radio regulations. In particular two very specific provisions. There is a note in appendix 4 against a data element that addresses the antenna patterns for satellite systems. And that note effectively encourages administrations to align as closely as possible the coverage area of the antenna pattern that is filed in their appendix 4 data with the actual service area. And in appendix 30B there is a provision No. 2.6BIS in Article 2 that encourages administrations to the maximum extent possible to avoid filing for multiple locations with the same overlapping service area. And there are a -- there is a view that both of these provisions are not really being properly administered by administrations. And because of that it is creating difficulties for other administrations when they file or wish to modify their appendix 30B national allotments, because there are filings that have already been filed that would predate them and because of the extended coverage area and because of the multiple locations it essentially creates an obstacle to those that come later in to the system. Here again we have had a lot of discussion on this at Working Party 4A but I wouldn't say we are anywhere near consensus on this particular issue.

So that's where we are in the studies. And we turn again to the regional representatives, please.

>> MUNEO ABE: Concerning APT we support further study in short. Okay. Actually some members support putting priority on administrations converting national allotment to the assignment. That's a first subissue. But some others are considering we need

further study. Okay. Thank you.

>> MOHAMMED SOLIMAN: Thank you. Regarding issue F, which is about improvement that can be conducted on 30B, in fact, we do need much more time before taking the appropriate decision in this respect and we are closely following up the studies that are being ongoing regarding this issue. And thank you.

>> MANDLA MCHUNU: Thank you. ATU supports studies on both the subissues and to enable the Developing Countries to have better access to satellite resources. Thank you.

>> STANISLAVA TERESHCHENKO: Thank you. CEPT had the same general statement that we think modifications to appendix 30B should be based on practical difficulties and we could support modifications if they lead to simplifications while ensuring protection of existing networks. The rest of the -- our preliminary position as posted to this meeting is no longer valid with the introduction of the new two subproposals. But we will have our next CEPT, PTB meeting in two weeks where we will certainly further develop the -- our positions both on E and F and as you know they are publicly available. So I would recommend you to look them up in two weeks when we will have more to offer. Thank you.

>> CHANTAL BEAUMIER: Thank you. At CITEL we haven't had any discussions yet on this issue. So it is still being considered by administration. So we will see if at the next meeting next week anybody will be raising it. But I suspect it could take another meeting before we tackle this one. Thank you.

>> NIKOLAY VARLAMOV: In the RCC we have a similar situation, because our last meeting took place before the latest meeting of Working Party 4A. So we are only going to flush out our position on this issue at the next meeting. At same time what I can say from technical Point of View when we discuss the lowering in the coverage area and the service area we are not transforming national allocations in to assignments. In a number of cases that proves to be technically impossible. We need to be technically cautious when conducting studies on this issue.

>> ALEXANDRE VALLET: From the BR's perspective I would rather insist on the note relating to appendix 4, the text of that note implies that the bureau already checks whether the coverage area corresponds with the service area. We have conversations with the administrations and up to now it hasn't posed any problems. But if administrations would like us to conduct more precise examinations we would be prepared to do that. Now with regard to the other section, paragraph No. 2.6BIS of appendix study B is being implemented by administrations. And the bureau is not involved in that. However if you would like to discuss that with us, we do have some instructions on how that item might be implemented. Thank you.

>> JACK WENGRYNIUK: Okay. Thank you very much. And I thank you indeed for the comment on the note in appendix 4. I think people appreciate what goes on behind the scenes at the BR. We have six minutes left, I am trying to be respectful of the interpreters. We have issue G. Provisionally recorded assignments are converted in to definitive assignments. Now we are getting in to the weeds. But that's the nature of agenda item 7. So there was a provision in regional 1, appendix, 30A and 30. Supposed to get your coordination agreements in place. And if you operate successfully for four months then you go get converted from provisional to definitive and everyone's reference situation gets updated and those that didn't give agreements, said what's going on here. In some way it is the only viable means to get recorded definitively. On the other hand, some see this as unfair to those who -- where still outstanding disagreement and yet they still suffer the consequences of having their reference situation updated. But I do think before I turn to the panelists I do want to turn to the BR perhaps you could walk us through this process so we have a common understanding of how this works. Please, Alex.

>> ALEXANDRE VALLET: Yes. Thank you, Jack. Yes. You might find it useful to know that indeed this provision has not yet been applied in any case, not completely. We have had a few number -- a few partial applications of 4118 by administrations. But up to now the bureau has never transformed a provision only recorded assignment in to a definitive one. The way in which it is done exactly is not yet properly established because we have never faced that particular situation. What the bureau has said in the past is that where we come up against the first case we will be careful to ensure that there is no misunderstanding between cases both between the case that is asking for a recording and the country that might be affected. If I may I would just like to make two other comments of the first is that these provisions 4118 and 4120 were established by the WRC-2000 on the basis of provisions 1141 at the time. WRC-2012 decided to review these provisions and so perhaps Working Party 4A could try to look at whether the provisions of 4118 and 4120 should be aligned of those of 4121. We have two very important paragraphs which are 8016 and 8018. Need to carry out coordination actions before they can implement 4118 and 4120 and that's why it might have been useful for 4A to discuss completely 4116 to 4120 and not deal with them separately. Now with regards to the various methods we don't at the moment have any comments on any problems with potential implementation. Thank you.

>> JACK WENGRYNIUK: Okay. Thank you Alex and I will take that under advisement for the next meeting of 4A when we get to this topic. So we have two minutes left. I'm wondering if I can

ask the interpreters if I could maybe an extra five or ten minutes. Is it possible?

>> Yes. Chairman that's fine.

>> JACK WENGRYNIUK: Thank you so much. Let's turn to our regional representatives. Please.

>> MUNEO ABE: Concerning issue G, APT members support studies conducted by Working Party 4A. We are taking due account the implication to assignment that's already in regions 1 and 3 list while updating the reference situation. Actually one country supports method A. That is alignment with 30B. But others consider that we need further studies. Thank you.

>> MOHAMMED SOLIMAN: Thank you. Regarding issue G, and the updating of the reference for regional 1 and 3 networks, the Arab group sees that it is very important to study the implications that will result from the different proposals in order to solve the problems. And we encourage Arab administrations then to present their decisions regarding this issue at their next meeting. Thank you.

>> MANDLA MCHUNU: Considering issue G, there was a feeling at our meeting that the format period of provisional recording might be inadequate. And ATU supports a solution which involves agreement between incoming and existing metrics. More discussions will be carried out at our next meeting. Thank you.

>> STANISLAVA TERESHCHENKO: Thank you. I will read this CEPT position. It is short. CEPT supports when networks enter list for 4118 in appendix 30 or 30A the reference situation of the interfered with networks shall only be updated if and when the Bureau is informed that the agreement has been obtained. CEPT suggests to modify 4118 to reflect this view and that is method A in the current draft CPM text. If I could just add to that this -- the principles of this issue was introduced already at the last conference. So we in CEPT established this preliminary view already at our very first meeting and we back then thought that this would be a pretty straightforward issue. But latest two 4A meetings have shown there are clearly different views on this issue. But I don't foresee that this -- the current preliminary position as posted in the input document to this meeting need an update. Thank you.

>> CHANTAL BEAUMIER: Thank you. Well, at CITEL on this issue has been pretty much focused, focused on modifications of regions 1 and 3, plan and list. So from our perspective we would not want to see any changes to the region 2 plan. We note there are substantial differences between the application of procedures of the corresponding provisions in region 2 plans and for that reason we are satisfied at the moment its focus on regions 1 and 3. Thank you.

>> NIKOLAY VARLAMOV: Thank you very much, Mr. Chairman. I

would like to thank the bureau for the information provided to the fact that not a single temporary registered system has been granted permanent status. And in conjunction with that the question abodes itself whether when a rule is modified a system would be able to find its way to the list at all. How would that modification be helpful to new administrations who would like to join their list. Would they be given an opportunity or the list would be occupied by incumbents. We had similar questions when we discussed this matters at the RCC meetings. That's why we don't believe it necessary to change 4118 in appendices 30A and 30B, with reference situation for interference affected station would only be conducted once agreement has been obtained between the incumbent and the new entrants. So that's an overall agreement is sorted and received. Thank you.

>> JACK WENGRYNIUK: Thank you. So now you have all had a little taste of agenda item 7. I'm sure that now that you your appetites have been wetted you will all be showing up to Working Party 4A to enjoy and engage in the deliberations on agenda item 7. We have also -- we heard yesterday from RCC and echoed the study from Nikolay, the idea of setting a time limit on new issues. There will be no new issues brought under agenda item 7 at the last meeting before we finalize CPM text. We have two meetings next year, one in February and one in July. If you have any new ideas you better get to the February meeting. It will not be accepted in the July meeting. We are already taking that course of action. I think it is an idea of further consideration by all of you. We are now five minutes after. I would like to thank the panelists. Again thank the BR for the continued support and the participation in this session today. And I thank you all of you for your participation today.

(Applause.)

>> KHALID AL AWADHI: Thank you, Jack. I thank all the panelists for the help this morning. We would like to thank the interpreters for the great help this morning. We will stop interpretation, but we will continue with a short presentation for the next 30 minutes that will present to you the conference proposal interface for WRC-19 which we have already provided you with a preliminary version. And we will do this presentation starting with some slides that you can find on the Web page of the workshop. It is document No. 18, 18, 18. And the presentation of the slides will be followed by a short demo using this CPI tool. So without probably no more introduction I think that my colleagues have finalized the setting up of the tables and everything. Thank you.

(Session concluded at 12:05 p.m. CET)

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>> CHAIR: Good afternoon, ladies and gentlemen. Could you please take your seats? We'll start in two minutes.

So, yeah, I invite the panelists for this afternoon's session, first session, Session six of the workshop to join us on the podium. And we will start shortly.

(Pause.)

>> CHAIR: So, ladies and gentlemen, according to my Swiss watch, it is 2:00 p.m. So I think it's time to resume the workshop. Again, welcome back to this afternoon's session. We will start with the first short session, session number 6 to address one of the issues that have been allocated to Working Party 1B. This is issue number 916, wise power electrician for electric vehicles, we call WPT for EV. We have the pleasure, the Chairman of Working Party 1B, Mr. Ruoting Chang. And also a number of panelists from the regions as well as from EBU and representative of IEC/ISO group working with this topic. Welcome, and Mr. Chang, the floor is yours.

>> MODERATOR: Good afternoon, everyone. Welcome to this session. The topic is wired power transmission. This issue is a little bit different. I would like to make a Power Point presentation regarding the background on Working Party 1B before giving the floor to the panelists. For your, for reduction of carbon footprint, the automobile industry is shifting from the gasoline vehicle to the electric vehicle. As a result, the wireless power transmission for electric vehicle is becoming more and more attractive. Given the WPT uses radio frequencies and WPT for electric vehicle has higher power level, it is necessary to evaluate its impact on the radio services.

WRC-15 resolved that studies for electric vehicles are required in preparation for the WRC-19. And this is in 9.1. This forces the CPM of WRC-19 decided to include this issue in the CPM report, issue 1.6. Working Party 1B was designated as the responsible group. 1A as the consulting group.

The main study, the main contents under this issue, there are two topics. The first is to assess the impact on radio services. The second is to find suitable common frequencies which could minimize the impact to the radio services from WPT4 for electric vehicle. We should also take into account the standardisation activities from the external organisations, including IEC, ISO, and SAE. Based on the mechanism of the WPT4 electric vehicle, the higher power it generates, the lower operating frequency it requires. Working Party 1B now focused on 20, 50 and 25 kilohertz based on the contributions from the members.

Those frequency bands are corresponding to the different power levels required for the electric vehicle. We are actually encountering some problems because currently there is no very clear status in the radio regulations regarding the WPT. We even do now what category of respective use we should consider the WPT is. It belongs to SM? SRD? Or can be regarded as the console for the electric vehicle, issued in Article 15 of the Radio Regulations? I don't know.

With that, we still are developing some outcomes. We are developing a report of the methodology for the spectrum measurement of the WPT, where we will evaluate the impact of the WPT for electric vehicles and the radio services. We also developed the CPM report. If we want to know what is going on in Working Party 1B, I will refer to the contribution at the Working Party 1B web page. Actually, we also prepared a document for this workshop. The number of the document is document 7.

In addition, the next Working Party 1B will take place from tomorrow to the end of this month. After this session, the

rapporteur group from the WPT will continue at Room M. All of you will be welcome to join this event.

During the preparation under this issue, we have also sent several statements to the external organisations, including the ISO and SAE and other groups. Accordingly, we received several responses. With that, I have concluded my presentation.

Now I would like to turn it over to the panelists. Let's start with the representative from APT, so Mr. Kobayashi, you have the floor.

>> SATOSHI KOBAYASHI: Thank you, Mr. Chang. I am Kobayashi. I assumed the role of Drafting Group Chairman for the issue 9.1.6 WPT matters. And since our review which was developed in July at the APG-19-2 meeting, the preliminary view was rather simple. So I would like to add some more background information before I come to the preliminary view.

In the APT regions, we started our work in APT back in 2012, five years ago. And the work was in a group called AWG APT wired group. Based on that progress, the progress in the AWG, we made APT common proposal to WRC-15 to make the WPT an Agenda Item for WRC-15, but the result was not very good and the proposal was not agreed as proposed. But urgent studies on WPTs for EVs were written in the resolution of 958 -- 958 as Mr. Chang explained. And the situation is that, the time situation is not only the regional organisations but the Chair in Geneva, Working Party 1A, 1B, and other Working Parties are very hardly studying this subject.

But I will say that the study has just started and we haven't come to the good agreement yet. Because of that, at the meeting of APG in July, we received, the group APG received five proposals as common draft -- proposed draft -- no. Preliminary view. And two of them, or one of them touched on the possibilities of amendment of radio regulations. But it was not well supported because the discussion in the ITU has not been started yet.

Two countries touched on the frequency range 79 to 90 kilohertz but two countries just say that we support the study of the ITU-R. One administration says monitor ITU-R study.

So that was the situation. And at the end of the APG meeting in July we came to simply that the APT members support the studies. It is written in resolution 958. So it was not so, we didn't show big progress, but as in other views, other views we included two views in our report. The first one is some APT members are considering the frequency range, 79 to 90 kilohertz for harmonisation of WPT for electric vehicles and some members are waiting for the completion of ITU-R studies on this matter.

There were two key points raised during the APG meeting and we felt the necessity of APT Members' involvement in the study. And necessity of APT members' participation in ITU-R studies. That was the situation. And we beginning from this morning we actually started the detailed discussion and we still need to come to the final APT common view. Thank you, Mr. Chang.

>> Good afternoon.

I am representing the Arab Group regarding 9.1.6 related to wireless power chance mission, WPT, I would like to say that we have discussed this item in the last meeting, the meeting of the Arab Group last prim. Based on that we have defined the preliminary view of the Arab Group and it is as follows. First to support the studies on ongoing currently in order to look in the the wireless power transmission for electrical vehicles and study as well the specific frequency ranges that will reduce the impact of WPT on radio services.

We have also said that we need to protect the existing radio services and not to add any additional limits or constraints on those services coming from the additional frequencies that may be used for WPT. The last point regarding the Arab preliminary position is the following: The Arab administrations should define their actual use and future rules regarding the frequency ranges that are studied under this item. The objective is to protect those services and not to put any additional limits or constraints.

Thank you.

>> MOUHAMADOU AWALLOU: Thank you very much. Good afternoon to you all. My name is Mouhamadou Awallou of the Cameroon administration. Here I represent the ATU. I am Deputy Coordinator for Chapter 6, devoted to general arrangements. Now, with regard to item 91 and 9.1.6, wired vehicles, the African position is very simple at the current stage considering this topic. Africa simply supports the ongoing studies in sharing and compatibility with existing services. Nevertheless, the African Group has observed on the basis of preliminary done studies that the band around 85 kilohertz is probably the one that would need harmonisation because it is susceptible not to cause interests experience to other services. According to these preliminary studies. That is in essence the African position on issue 9.1.6. For the WRC-19 agenda. Thank you.

>> ALEXANDRE CHOLOD: Thank you. Good afternoon, ladies and gentlemen. I am Alexandre Cholod. I have the pleasure and privilege to represent CEPT in this session. In line with what is called for by this issue of Agenda Item 6, 9.1.6, CEPT is studying the impact of wireless power transmission for electric vehicles on radiocommunication services. The idea is to select a band or bands that would minimize such impact. Currently

based on the promise made within ITU-R and also in the European institute, the main band under consideration in CEPT is band 79 to 90 kilohertz. I believe you know that this band is used in accordance with footnote 566 of the radio regulation to transmit standard time and frequency signals. And probably more importantly with regard to our preliminary position is that CEPT is currently of the view that there is no need to highlight any regulatory requirements in the radio regulation in order to resolve this Agenda Item or the issue under this Agenda Item. Thank you, Chairman.

>> TARCISIO BAKAUS: Thank you, Mr. Chairman. Good afternoon for everyone and thank you for the invitation for this venue. I'm Tarcisio Bakaus from Brazil and the representative for the Agenda Item at this session.

First of all I would like to briefly express my feelings about the tasks here at the workshop yesterday and today. My opinion this kind of Inter-regional Workshop is important not only for sharing the visions and views of the Regional Groups but to improve the relationships between the Delegates and the decision makers of the Regional Groups. This kind of relationship improvement will be very important at the future WRC-19, especially at the time when important decisions need to be managed for the administration and for us.

The doors that we could open today between the people which attend here at this meeting, certainly it will offer us many easy ways on the future WRC. I am sure that this kind of Inter-regional Workshop, we could be more efficient on future Agenda Items and negotiations and solutions. We from Brazil are very glad to be here with us.

The administrations has no visions or proposals about this Agenda Item. With respect to countering the developments and studies and where for EV. And as some representatives said before we will have our next meeting of our CITEL weekend next weekend in Colombia. Perhaps we will have a proposal and we can make steps in order to develop a CITEL proposal with regard to the WRC 2019 agenda item. Thank you, Mr. Chairman.

>> SERGEY PASTUKH: Thanks very much. My name is Sergey Pastukh. I am coordinator in RCC for issue 9.1.6, this particular item on the Agenda is seen by the RCC as a matter of harmonising the spectrum. So we have always supported the methods to identify harmonised frequency bands for applications such as wireless power transmission.

In our position, which was approved last September, I would single out the three basic points which I would like to share with you. The first one is a question which arises when we consider wireless power transmission and devices thereof. I want to consider them for classification purposes, whether they

should be qualified as ISM equipment or as short range devices, SRDs. Depending on that, there are quite a number of implications either way. In the RCC Member States we now see these devices as short range devices, SRDs. Because of that, the first implication is that harmonising frequency bands for short range devices in order to do that recommendations of ITU, ITU-R are the most appropriate forms. So no modifications are easy in the radio regulations. That is our first position.

Our second position has to do with the fact what radio frequency bands need to be used for applications such as this. And so here once again the classification of short range devices or otherwise is important. In that sense, we need to bear in mind that frequency bands allotted for short range devices. And to revert them for use by radiocommunication services in say, security, for example, would be impossible because these devices would be disseminated widely and used widely. That's why when identifying frequency bands we proceed from the absolute need to assess the impact from these short range devices on existing services and inside bands and in adjacent bands.

In this case, this question is particularly crucial because there are quite a lot of power, energy is involved in recharging the motor vehicles. We have identified four frequency bands where we are conducting studies, obviously we also follow-up the studies conducted in Working Parties 1A and 1B at the ITU. These are the following bands: Nineteen to 21 kilohertz, 59 to 61 kilohertz, and 79 to 90 kilohertz, and 100 to 300 kilohertz.

These bands in terms of preferable for the implementation of new technologies developed with the view to support wireless power transmission are physically indispensable. On the other hand, in terms of the readiness of technologies, or the level of interest on the part of companies or the level of standardisation available, among these four frequency bands in our view one band, 79 to 90 kilohertz, is the most promising one in terms of being harmonised for the entire world globally. That is a second question.

And a third question has to do with the assessment of interoperability or compatibility or the impact of radiation characteristics of these devices on radio services. Here we can point out the lack of information as to the technical characteristics of the devices them sells, particularly out of main bands. What would be the level of radiation on harmonics and subharmonics. That needs to be verified. It needs to be verified. It is very important when conducting evaluation of impacts on other services that those would be done adequately.

So that is another matter which has been hampering our progress in terms of reaching a conclusion and agreeing to a single frequency bands.

This will conclude my presentation. Thank you.

>> So would you please make your presentation more ...

>> WALID SAMI: Yes, thank you, Mr. Chairman. Good afternoon, everyone. Thank you very much for inviting the EBU to talk about this subject. We are concerned, of course, with this. We are very happy to work with the ITU group on the study group. In fact, one on this and we are also working in Europe and CEPT groups on the same subject. In fact, the issue that we have with WPT is quite simple, but it is quite unfortunately difficult to sort. Not easy to solve.

The WPT for electric vehicle charging targets a quite let's say agreed frequency band which is 79 to 90 kilohertz. This is not a broadcasting band, definitely. You probably all know about it.

However, the involved power for the transfer of energy causes the generation of lots of harmonics. And these harmonics are radiated and they are received in certain distance from the place where the WPT is working.

And these harmonics fall in two frequency bands used by broadcasting, the low frequency, from 180 to 250 kilohertz and the medium frequency band, from 526 to 1700 kilohertz.

And these harmonics in fact, according to the indications we have in the different studies, they exceed by something like 40 dB what we require as limits for these harmonics falling in our bands. And when we look, when we say we have services in these bands, in fact we have information about quite a verified use of these bands, although we are talking about AM radio. This is analog. You may think this is good old technique, but there are investments still in these bands. Broadcasters both public service and commercial use these bands. So in the low frequency band which is only used in region 1, not in region 3, nor in region 2, almost every frequency in the low frequency band is used, and is used also in North Africa and Nigeria and Morocco and other countries and also in Europe. And they are operational frequencies. So they are received by people. And the medium frequency band, we have something like 1500 assignments with translators in operation in Europe, Middle East and Africa. They are operational and received, definitely by the audience.

So the issue is that this gap of 40 dB in the protection limits between what we require and what the industry WPT industry is keeking is a problem. And it is not possible to agree on one or the other of the limits.

So we are proposing mitigation techniques to facilitate the coexistence. These mitigation techniques require a specific choice of frequency within the band 79-90. So two spot frequencies are very interesting within this frequency band, but

provided that the WPT equipment meet a certain purity and stability of the carrier that transfers the energy. This is one of the discussion problems, the problems discussed with the stakeholders, having one carrier which is stable and pure enough is not necessarily what the WPT industry is developing.

So it is simple as a problem but not easy to solve. We continue working in the ITU groups and in Europe to try to get to an agreement on how to reconcile the two views through possible mitigation techniques. Thank you, Mr. Chairman.

>> TAKAHIKO MIKI: Good afternoon. Please give me one minute. I'm Takahiko Miki from the convener or of IEC Working Party and co-convener for ISO for the systems for EV. We have three IEC standards and one ISO standards for cars. The target is to publish the international standard by the middle of 2019. And in both standards we specify 85 kilohertz band, the frequency for the WPT for EV up to -- kilowatts. We are very interested in the discussion in ITU-R. Thank you very much.

>> CHAIR: Thank you very much. That concludes the presentations of the panelists. Unfortunately there is no time to accommodate any questions or comments from the audience before wrapping up this session I would remind you as a responsible group of issue 9.1.7, Working Party 1B has also prepared a WPT which is available at the workshop web page.

So let's join me in thanking this excellent panelists.

(Applause.)

>> MODERATOR: And I turn it back over to the moderator.

>> CHAIR: Thank you very much, Mr. Chang and thanks to all the panelists from my side as well. Very interesting discussion on this very important topic of WPT for all of us.

We have now a new round table to address several Agenda Items in terms of their frequency overlap. And I will invite the Chairman of the CPM as well as the representative of the regional groups to join me on the podium so that we can start the next session and address these questions about how the studies are going to be prepared across several Agenda Items where the same bands are studied. So if you could kindly join us, we start in two minutes.

(Pause.)

>> MODERATOR: Ladies and gentlemen, welcome to our seventh session of our workshop. And this session we are basically going to discuss not a specific Agenda Item. It is a generic issue which is overlapping frequency bands between different Agenda Items of the WRC-19 conference. We have identified so far at least two cases where we have this issue and we plan to discuss these two cases in this session. The first case is the case of Agenda Items 16, 113, 114, and Agenda Item 9.1/9.1.9. This case has been identified at CPM1, if you recall. We've

identified the Agenda Items, identified the frequency bands that are overlapping between these Agenda Items. We've even included a table including these frequency bands of the Agenda Items in the circular letter which was produced from CPM1. However, I understand that there are a lot of developments in this regard. Of course, we are going to go through the details of these developments in this case.

The second case we are going to discuss is the case of 111, 112, 116. Also there are some identified frequencies that might be overlapping between these Agenda Items and there are some developments in this regard that we are going to discuss as well for this case.

So Philippe, if we can just ... so let me first begin with the first case we are having. This is basically the table that we have included in the circular letter of 226 which is produced from CPM1. We identified from the beginning of the cycle that we have four Agenda Items. These are 1.6 for the non-Goss emphasis identification, Agenda Item 1.13 for the IMT identification. And then for the 1.14 Agenda Item for the HAPS and issue 9.1 -- this is the emphasis GSO allocation.

And we have identified some frequency bands that are going to be overlapping. So we expected from the beginning that we might face some double work that might happen between different Working Parties and we wanted to address this from the beginning of the cycle and we wanted people to be aware that we are having this issue. And if there was a probability that we allocate one of the services in a specific frequency band, then this has to be taken into consideration when studying the other Agenda Item for another service.

So by this I will switch to our panel. I see that we have a large panel here. We have a representatives, heads of the will regional groups. I am honored and glad that they join us here in this session and also we have the Chairman of the responsible groups that are responsible for these Agenda Items.

So at the beginning I would, if you allow me, I will turn to the Chairman of the Working Parties which are responsible for these Agenda Items. Basically now we are talking about these specific Agenda Items. So I would like to hear from the Chairmen on what collaboration they had to make, what concerns they had, what difficulties they faced when they discussed or when they addressed the specific issue.

So with this probably I will start with Ms. Cindy Cook, Chairman of the TG group 5/1.

>> CINDY-LEE COOK: Thank you, Khalid. On behalf of Jack and Pietro and I, I will talk about the understanding the three of us reached. As you said at CPM we were asked as Chairmen of

the responsible groups for the Agenda Items up on the screen to find a way forward for the overlapping frequency bands.

So we had some discussions. We took a look at the terms of reference for the Task Group 5/1 as well as the resolutions for each of these Agenda Items. And then based on that came to an understanding between the three of us. That understanding has been presented to our Working Parties and the Task Group as well. As a way forward and it seems everybody has agreed. No one has disagreed to me, anyway.

So the approach that we decided on -- I'll just go through the overlaps in the various areas. So starting with of the overlap between Agenda Item one.13 and Agenda Item 1.6, based on the terms of reference of the Task Group and on the resolution applicable to Agenda Item 1.6, we see in Agenda Item 1.6 that it does not call for studies with all of the other primary services in the bands, whereas Agenda Item 1.13 does. With that understanding, the Task Group will be responsible for the studies on the overlap of those two Agenda Items.

And then taking a look at the overlap between Agenda Item 1.13 and Agenda Item 1.14, the terms of reference of the Task Group said that we were to receive all of our parameters for our studies by the 31st of March, whereas in the HAPS group they were still devising their parameters at that time. So with that understanding, Working Party 5C will be doing the studies for that overlap because the mobile service was already co-primary in those bands as well and 5D did provide the parameters to 5C. So they have everything that they need to do that work.

For the overlap between Agenda Item 1.6 and 1.14, again as I said, Agenda Item 1.6 does not call for studies with all the other primary services, so that too will fall to Working Party 5C to perform those studies. And then for the overlap between Agenda Item 1.13 and Agenda Item 9.1, issue 9.1.9, given that the mobile service is already a primary service in that band and the FSS is not, and Agenda Item 1.13 calls for studies of the existing services in the bands, those studies would fall toll Working Party 4A to follow up under issue 9.1.9.

Those were the decisions we reached. I don't know if my colleagues have anything they want to add. That is the approach we are taking for the studies. I know a question has come up as to who writes the CPM text. Well, obviously the group doing the studies is going to write the CPM text. We have had some conversations with the BR to understand how the CPM text is kind of integrated. Rather than send each other liaison statements with the CPM text and all the resultss of our studies, we have been told that there will be references and notes made in the CPM text to say look at this Agenda Item for these studies.

There will be links made editorially in the CPM text. Thank you.

>> MODERATOR: Thank you very much, Cindy. I would like to turn to the Chairman of the concerned groups, if they have any additional remarks they would like to add? That's it? Jack, please.

>> JACK WENGRYNIUK: Thank you, Khalid. As Cindy said, Pietro and she and I went back and forth a bit and came to what we thought was a logical attribution of the work. Working Party 4A has in fact sent FSS characteristics for the bands covered under Agenda Item 56 for TG5.1 and to Working Party 5C. We have also initiated our studies under 9.1.5, for the for the frequency bands and we have laced our current studies of the status to TG51. From a Working Party 4A perspective, things seem to be working exactly as the three of us had discussed and agreed.

>> MODERATOR: Thank you.

>> Just to confirm that the common document we have prepared together with Cindy and Jack has been presented at our last meeting. Of course, we had the agreement. We had substantial agreement on how to progress in these things and we have already started to work in this direction. So nothing else to add for this moment. Thank you (Pietro Nava.)

>> MODERATOR: So thank you very much for the Chairman of the responsible groups for this work. And for the steps taken in this regard. And I think the issue has been carefully thought about and I am sure the steps taken in order to tackle this issue are going to be sufficient in order to take care of this specific concern. Also I see that even the inclusion of the CPM report, the inclusion of this issue or the studies within the CPM report has also been looked at and taken care of. So I am glad to hear all about that.

With this I would like to turn to the representatives of the regional groups or the heads of regional groups and I would be very much glad to understand or to hear any specific experiences that the regional groups faced with regard to this issue. And any specific practices that are taken within these Regional Groups that the representatives would like to share with us and which might help the other regional groups as well in understanding how to deal with this specific concerns.

So that is one aspect that I would really like to discuss. Then the other issue, if we would like to even go further, to understand with regard to these specific Agenda Items, there might be cases where we have the sharing studies which show that we can not have two of the Agenda Items being set aside for the same frequency band. For these specific cases I would really -- well, I think the audience would be really interested to

understand and to hear from the Regional Groups what are the preferences that they are having with regard to these Agenda Items in case there were these incidents where you have conflicts and allocation or identification of the specific frequency band.

With that maybe I would start here near me with APT. So please?

>> KYU-JIN WEE: Thank you, Mr. Chairman. Regarding the ITU studies, it is very nice that we have a document which is developed by the four Working Party Chairs. So it makes us feel comfortable how we are studying these Agendas.

Coming back to the APT situation, we haven't had a chance to discuss in detail on this how we observe these Agendas. If I may select the word that the consistency and the inconsistencies. So consistency means at least within one regional group has a very clear position what agenda, what frequency bands they prefer. But I wonder whether it is possible even within the one regional group. The one example is our region, the region APT regions, we have very small island countries. We have very big populations countries, China, India. Very well small country countries, et cetera, et cetera. I wonder how APT can make very clear consistency positions. But last APT second meeting, we had the very brief discussions and there is one view that probably consistency is the right policies we have to proceed in future meetings. However, as a practical point of view, whether we can make any consistency within the APT. So we will have further discuss in the next meeting, APT 3 March time frame. So probably the next workshop next year we may provide what we are thinking.

I would like to take this opportunity to raise one question through you to this workshop that the question is why did WRC-15 decide to such frequency bands among the Agenda Items? Was it unhe editable? Couldn't there be ultimately a way to avoid such situations? Such decisions? Means that without any overlapping frequency bands among the Agenda Items. Was it uneditable? And then the question is continue to that, would it be desirable? And would it be inevitable in the future? So we have to face this kind of situations in every preparation of the WRC cycle?

Those are the questions in my mind. Probably somewhere we need to discuss whether we will carry this kind of practice in the future cycle of the WRCs. That is the one question. I would that APG need to discuss this area as well during the next March meeting. If I find some solutions, I will share that information with you. Thank you.

>> MODERATOR: Thank you very much for this. I think I'll switch to ASMG and we can address this as well while we have the comments from the regions.

>> TARIQ AL AWADHI: Thank you very much, Khalid. I would like to thank the Chairman of the Working Parties for coming up with this solution. From the ASMG point of view, at the last meeting we addressed this issue and made a similar table also between the Arab Group and we put the Arab Group administration name on the table and asking them to give us their priority in those bands and how to tackle this overlap. Still we are going on the consultation process on that one and hopefully the next meeting, held next year, we can discuss it and select which bands that can be used or which services or which Agenda Item.

However, as I mentioned yesterday in brief that our position in a number of those bands, the number of the Agenda Items, for example, 1.13 we have agreeing or supporting the studies going on there. As we said, we have at least selected three bands to put as a priority for those studies to be conducted. Which is the first three bands almost. And our position also when we say that about 1.14 importance the HAPS group that the current position there, or position up until now is not supporting to have any new allocation for HAPS at this moment. That for ASMG emphasis, we are supporting the studies going on there and we are protecting the current or existing services for FSS.

Now, this is the position of ASMG group for the time being. Hopefully by the consultations that are going on right now, in the next meeting we can come up with a firm position for all of those issues. Again we are glad to hear that there is work going on between the Working Parties in order to address those issues and discuss it or make the conducted studies between them successful. Thank you.

>> ABRAHAM OSHADAMI: Thank you very much. My name is Abraham Oshadami from ATU. On the issue of overlapping frequencies, we feel frequency overlaps is always a part because of advances in services and technology. And as it is often said in some parts of the world, if you go to the court of law, you are told that you are not guilty until it is proven. And that is why we are happy that even though there are overlaps, compatibility studies are going on in Working Parties as has indicated. So we don't rely heavily on the outcome of the studies. For us in ATU, if studies results show that it is possible to share or coexist, we don't have problems. It is the only way it is not possible, then you have to prioritize. So looking at this would be depending on the outcome of studies as it will also reflect in the CPM text.

Coming to certain priorities, for us in item 1.13 as was indicated during the fourth session yesterday, in Africa we have the priority for 20.25 to 27 to five gigahertz. So if at the end of the day study results shows that it is not possible to

share or coexist in any way, then this is our own priority. And that is the way we want to go. Thank you.

>> MODERATOR: Thank you very much.

>> Good afternoon, everybody, I am Alexander Kuhn from CEPT. Coming to the overlap of bands, we have to deal with an already up to our first meeting. Then we ask the same question, what the Chairman of the responsible groups asked, how can we avoid duplication of work and how can we take into account some aspects of the other elements of the other Agenda Items as well. What we decided there was a similar approach like our African colleague described that we said okay, let's go forward, study the issue and see where we really need some further study activities on that one. That was seen directly with regard to Agenda Items 1.13 and Agenda Items 1.14 and we can set up later on our priorities. See if our priorities are there, do we really have a case of conflict of these interests? There and then we have to come to a consistent position within the regional group and see if we can sort out niece conflicts of interest.

With regard to this specific approach, up to now we don't see and you can see it in our presentation on the positions any case where we have an identification of this case of conflict up to now because for Agenda Items 1.6, those than spas are mentioned there, 1.6, according to the resolution is limited to the regulatory environment for the non-GSO FSS. They are not looking for new allocations. No way. For that one, and this was described also by the Chairman of the responsible groups correctly, we need to study the case with regard, or inside the Agenda Item 1.13. Therefore, we are the first step has already made in that direction.

With regard to 1.14, we are fully supportive to the 26 gigahertz band. You heard this yesterday as well. The case with regard to 12009, 22, 27.5 is limited to region 2 only. We are in a lucky position within CEPT but we are grateful if we have some discussions there with our colleagues on region 2.

With regard to the band 38 to 39.5, which is proposed for global band for HAPS, we would like to go forward with the studies inside 5C. Up to now we do not have any interest in the band 37.5 to 40.5 as our priorities are lying a little bit above that. There we need to take this into account and the studies there as well and we would consider then the relevant position of the other groups as we continue the studies there.

From CEPT EBU we do not have identified any conflict of interest right now. We have a constant position and we would like to go forward on that one.

Of course there is one point missing, 9.1. These are the studies to 42.4 and it is exactly that. These are the studies.

We do not have to make an allocation at that stage. If we go forward we have to make the relevant studies and see what the outcome would be.

We are going straightforward and hope to continue that way up to the conference and we have the possibility to discuss maybe at later workshops the case of overlaps. If we see conflicts positions between the regional groups on that one, that will be the interesting case later on.

Coming to the point made by my dear colleague from the APG, why did WS15 identify such items? It was a coincidence of the items under Agenda Item ten. We have to look at the further preparation of our activities in the future WRC that we do not have such conflicts again and have to prioritize our studies within the ITU. Thank you very much.

>> CHANTAL BEAUMIER: Thank you. My name is Chantal beaumier from CITEL. I will try not to repeat what my colleagues said but we have a lot of commonality. We have not had a lot of discussion within CITEL on concerns with overlapping bands. Clearly the agreement has been reaped between the various Working Parties and Task Groups, satisfying most of our concerns that could arise.

And of course, we do have within our procedures to adopt inter-American proposals, means to assure that we don't submit conflicting proposals. Right now we may have to visit that if need be because they are more focused on proposals within one Agenda Item than between Agenda Items. So we may have to take a look just as a preventive measure to make sure that we have the right procedures in place to address potential conflicts if such conflicts arise later on. We will be waiting for the studies to be more advanced before further discussions. We did not ask any administration at this point in time to identify priorities. I note for add manages that identified their interest for these Agenda Items, some identified the same interest in the same band for more than one Agenda Item. They hope that the coexistence will be possible. If it is not possible, obviously we will need to look at this in more detail.

I think I will leave it at that for now. Thank you.

>> Thank you very much, Mr. Chairman, colleagues. What we are discussing today is an emergent phenomenon for RCC. Up until recently we have encountered a situation where they considered the matrix comprised of a number of services and a number of bands, which needs to be disentangled in such conference. First of all I would like to extend my gratitude to the CPM Chair for incorporating this question into the Agenda of the first session.

To enforce priorities for each of these items. First of all, we need to wait for study results. Once we hear from

relevant groups, we may assure solutions. With regard to the RCC, the RCC supports the need to identify for each of these cases the priority frequency bands and I would also like to adhere that one of, it is one of those cases where a new idea emerges and immediately begins to spread because there are overlapping frequency bands. Also radiocommunication services. This is the very beginning of this and we need to approach the solution of this issue very, very carefully so in the future we have a key to solve such problems. I don't know fortunately or unfortunately, but unfortunately I Chaired a group, WSC15. I report to you that this list is to turned to 15 pages, overlapping bands and services. We were able to weed out these services and bands to arrive at this minimal list. So when we tackle this specific question we need to reflect on what kind of methods we could apply at the next conference to at least not to worsen the situation as it stands. And finally, while we could, of course, express our doubts now but we need to bear in mind that the same people who are present here were present at the conference. So if you have any claims or counterclaims or doubts, you should criticize yourselves. You need to be more compromising when dealing with similar clash of interests. I urge you all to move in this direction. So as far as we are concerned we are going to support CPM 1 and relevant, the work of relevant groups. I'm sure it will come to this issue when studies have been more or less completed. And when the issue of regional organisations will be in a position to speak more specifically. I wouldn't like to waste too much time on speculating. If this were so, I will leave it at that. Thank you.

>> MODERATOR: Well, thank you very much, ladies and gentlemen, for all of these clarifications. I'm so glad that this issue has been very much thought of from the Working Parties' perspectives and also from the Regional Groups' perspectives. I'm glad to hear that this has been looked at in different ways. Some have said, okay, let us wait for the studies to be conducted. Let us see if there are any conflicts. So far there are no conflicts. Some have already started looking at priorities between these different Agenda Items.

Then I would like to stop at this very important question raised: Why do we have this issue? This is a very important question, I think, which we really need to address. Is it by coincidence? Maybe we didn't even thought of it during the inclusion of the Agenda Items for the next WRC? Maybe it wasn't in our list of things to consider during the conference. Is it possible for us, for this time so far that there are no conflicts? What about next time? Probably we will have a big conflict between two Agenda Items where we will be having

difficulties. Are we prepared to face this issue? Or maybe we would like to take some specific measures in the conference that we make sure that the specific Agenda Items does not include conflicting frequency bands. I don't know, I would like to leave to the floor, the audience, to contribute to this specific concern or any other comments they have regarding this issue. Yes, please, Iran?

>> ISLAMIC REPUBLIC OF IRAN: I have not been given the green light. I am waiting for the microphone. Be patient with me, please.

Thank you very much, thank you for the Delegates and the panelists. I wish to express my sincere appreciations to the ATU. They have a very wise vision. Up front, conflict may not necessarily be resolved conflict. So we have to wait. Not make a prejudgment. Mrs. Beaumier mentioned we should not have conflicts. Mr. Nalbandian mentioned we should not have wishful thinking. You don't have any control. You cannot control that. You can not control even with the CITEL to conflicting proposals, proponents are different and everybody behind that.

Then there are two things. To the Chairman of CPM, how to resolve that. We should avoid Agenda Item trading. At WRCs, unfortunately, regional group they trade Agenda Items with each other. You accept this? I accept yours. This is ten years.

We have to start to do better understanding of the situations. But now what do you do at WRC-2019? I was not in the regional group informal meeting. Iran was not invited. I am complaining about this. It is open to everybody. We had views. APT does not reflect our views because APT is one or two persons. Everyone has their own views. But what I would have suggested that WRC we need to take into account of the result of these three Agenda Items in one area, or in one single group not to have conflicts results to the Plenary or any other way.

So perhaps first at the CPM by yourself and then at the WRC to the victim of the Chair of the WRC, whoever it may be, maybe Egypt. Certainly they are inviting countries. They have to be careful that asking these three items be coordinated from the viewpoints of removing to the maximum extent possible the conflicts. But you can't do many things in the future. Future is people behind the Agenda Items. That will happen. So there is no way to totally eliminate that. It is outside our mandates. It is politics and policy. Thank you.

>> MODERATOR: Thank you very much, Iran, for this comment.

And I will turn the floor to Russia, please.

>> RUSSIAN FEDERATION: Thank you very much, Mr. Chairman. I have a couple of perhaps practical questions. First of all, thanks to an agreement of cares, we now have general agreement as to how to approach compatibility studies, which is very

positive for the purposes of writing the report. At the same time the question comes to the floor given that based on the work of contributions and I have the following question. Contributions with regard to compatibility between interoperability, IMT and HAPS systems.

It would be presented or perhaps it's only in the interest of the administrations who in terms use both IMT and HAPS in frequency bands. I understand there are virtual no such add manages. Most likely we are not even going to have contributions. For example, in the 26 gigahertz band. We have serious doubts that there will be contributions.

The second question pertains to the CPM report as such. Because apart from interoperability study results we have another chapter entitled, or titled regulatory solutions. But how does it arise with respect to these frequency bands. It appears we have two sets. One set anticipating that IMT, for example, will be introduced in the 26 gigahertz band and the second set proceeding from the assumption that it will not be introduced. So from the practical viewpoint, we also need to settle as to how we are going to approach it because with respect to some other questions we have three different options to application. Will we be required to have three alternative regulatory sets as well?

I think we have made a first step in the right direction on this issue. But in practice when we are going to sit down and write the CPM report, we might encounter issues.

I have a question to the panel whether my colleagues also see an issue here. Thank you.

>> MODERATOR: Thank you very much, Russian Federation for these comments and questions.

Maybe if you allow me one comment here again, I think we will not -- if the sharing studies show there are no conflicts, I think for this specific case now we are having for this conference, specifically we are not going to have any problems. If the sharing studies show that there are no issues in sharing or having coexistence. But now we are trying to tackle the issue that if there are problems, I fly agree with the concerns raised that if we have comments -- sorry, if we have conflicts, then we have a serious problem in identifying the regulatory procedures. And we are having different scenarios now. Okay, if the IMT is allocated or it is not allocated, what is going to be your position? I see that we have some sort of issue here. Probably I will leave the floor for the panelists if someone would like to add on to this comment.

If not, either we are all agreeing to this problem? Please.

>> Yes, thanks a lot to Iran and also the Russian Federation for their observations and also the question for the coexistence conflict during the conference.

I think this is nothing new. The coexistence question is always the question. Inside the Agenda Item, it could also be a question between the agencies. The question is what sort of regulatory procedure we would like to try on that. Do we make use from alternative allocations from different regions? Make use of any further prohibit technical limitations which may prevent some of the use? Do some countries look for specific solutions just for their own purchases? I think there are variants and millions of variants thinkable in terms of regulation where we can discuss this at the conference. This is then part of our consideration on that one. What we should avoid and this has been made clear by Iran on this one, is having this conflict then blocking the whole conference at all and did not coordinate the work at the conference. Then what do we have to do then? Organise in a smooth manner to coordinate this and make clear this is the conflict and this is the question what we have to solve.

Coming to the more prognosis into the future, I guess we will see due to the fact that more radiocommunication services, or there is more interest in radiocommunication services. We will see more cases where the industry will be interested in the same frequency bands. We will have to cover in our preparation before the next conferences and the Agendas, really carefully what kind of frequency bands we would like to consider, where we see maybe by sometimes and maybe premature studies some possibilities of coexistence and where we can see conflicts and discuss them before hand, before we can really start with something during the conference and end up with the situation where we have really the conflict of interest. That could be a way forward. Just an initial thought. I hope that we can discuss this further. Thank you.

>> MODERATOR: Thank you very much for that comment. Unfortunately, I think we are running out of time. We are still having another case that we need to discuss. If you allow me I will shift to the second page that we are having.

I'm very sorry, sir. Please.

>> My view of this is that it is really something that we can address under the current organisation. It seems like if we had another Agenda Item which would say address the compatibility issues in the 26 gigahertz plan between IMT and HAPS, for example. For this we will do exactly what we are doing, which is having compatibility studies.

If I were still a Delegate and interested in HAPS, I would produce contributions analyzing the impact on IMT using the IMT

characteristics that we have already available. We have only to do those studies and if they show that there is compatibility problem, which I doubt, then we have to be inventive. If not, we use the current procedure which implies in this case on limits.

And so I think the lesson for the future is that when we identify possible con flicking bands, it is like introducing an additional Agenda Item and I think as Alexander said, we can expect that this will happen more and more. We can not shut the door on the basis of incompatibilities that have not been demonstrated. It has to be studied in each case to determine what is feasible. That is basically the rule of the game for conferences, to ensure we can put as many services as possible each month. Thank you.

>> MODERATOR: Thank you very much, Mr. Rancy for valuable comments on this issue.

If you allow me, I would like to move to the second case that we are having. If we can? Yes. So the second case that we are planning to discuss is the case of 111, Agenda Item 111, 112, and 116, which are for the railway, 112 is for ITS and the 116 for the R lanes.

Basically, going through the draft CPM texts for these three Agenda Items, it seems that the conflict that we might be facing within the Agenda Items is within the frequency band shown in the slide, 5725, to five megahertz, which is being considered for the Agenda Items. This is my own examination. Probably I might be the wrong. And I understand that there are updates with regard to the studies for these Agenda Items.

For this I am glad that we are joined here by Mr. Kraemer who is covering up for Mr. Jose Costa for the Working Party 5A, which is responsible Working Party for all of these Agenda Items.

So probably I would give the floor first for Mr. Kraemer to explain the current situation with regard to these three Agenda Items and the conflicts with the frequency bands. Please.

>> MICHAEL KRAEMER: Thank you. Yes, I am not Jose, not the Chairman of 5A, but Jose had to leave Geneva. He asked me to cover this topic, since I Chair the Working Party in 5A that does the 1.16 studies.

When we first discussed this potential overlap or conflict, one question that came up was since, particularly for the 5A, 50 to -- it is already allocated to the mobile service. We are looking at three different applications of the mobile service. The question came up if that is even a topic that should be discussed at a worldwide radio conference, regulating under that service. Setting that aside, looking that those are low power and short range. We started to work on the CPM text and the

draft CPM text as we have progressed it at our meeting last week and the week before is in the Chairman's report that Jose mentioned yesterday when he talked about the 1.16 work. And also the one.12 and one.11 work. There is no conflict in terms of the WRC preparations that we see.

Mwanza you look at the draft CPM text as we developed it up to today, the only band that is overlapped in terms of the discussions we had is 5855, 925-megahertz, but for Agenda Item 1.27 for the band, while one of the proposals is no change, we also have recommendations and resolutions being proposed to cover ITS in this range for 1.16, for RLAN. The only method we have for this range is no change.

And by that fact already there is no conflict anymore, even if you would have assumed from the start of the discussion that there might be one. From the CPM text as we have it today, there is no conflict anymore in that band.

So that is the fairly short summary of where we are. In terms of issues identified and any questions requiring liaison statements, we didn't require liaison statements because all of those are covered in Working Party 5A. That's where 5A is at the moment.

>> MODERATOR: Thank you very much, Michael, for this clarification. I understand that practically you don't have an issue here and the issue has been taken care of by having only one method. That is why the Agenda Item for 1.16 is no change for this specific frequency range. So I think we are fine with this issue. But I think it was important to make it clear for all the audience that this issue is not having any conflict so far.

For the railway also as I checked it, I saw all the proposed, all the existing identification for the railway are below the one gigahertz so far. And from our discussion before this session I understand that we are not -- we are not aware of any plans to extend this identification for any frequency bands above the one gigahertz. Maybe that is one issue to be clarified even by the representatives of the Regional Groups, if there are any concerns. But with that I would provide appear opportunity for the regional group representatives to provide input. I will start with Mr. Nalbandian from that side, please.

>> ALBERT NALBANDIAN: Thank you, Chairman, colleagues. As always, I have good news and bad news. The bad news, there is one additional case with some uncertainty where we need to focus our attention while preparing our common proposals.

The good news is that that focus he is already present in a Working Group. All is under control and I hope that it we will receive the results of the study sometime. All I can say, we will reach a practical conclusion. While preparing for the

conference we will pay special attention to these three Agenda Items from the point of view of using the given bands, 5,725, 5,925-megahertz. For the time being while the studies are still ongoing I can't say anymore. Perhaps there is not any need of that. Thank you.

>> CHANTAL BEAUMIER: Thank you. Well, at CITEL these three Agenda Items have not caused any concerns. You may remember from yesterday's presentations that for both one.11 and 1.12 CITEL has drafted inter-American proposals for no change for both those issues. So there is no particular conflict with what might be the common proposal from the region for 1.16 really possible at this stage from the CITEL perspective. We do realize that it is needed, at the conference it will not be that simple. But so far we are identifying no major concern. Thank you.

>> Thank you very much again. You heard that CEPT, no change at the conference. We would like to achieve the harmonisation on non-mandatory measures on the ITU-R level. At the conference we therefore see no conflict. The main point is, and this is the conflict area here as described by Mr. Kraemer correctly, do we need to cover applications and identification for certain applications under one mobile service this time, the mobile service under one radiocommunication service really at a WRC. There are other measures thinkable and we need to evaluate them carefully and thoroughly and see what the studies will bring us to that. Finally the administrations can pick those technologies they would like to implement in their countries. If this is then harmonised later on, the ITU-R recommendations are one of the elements that need to be taken into account here. That is straightforward from our side. We would like to avoid such cases in the future as well. Thank you.

>> For us, we don't have major challenge with these three Agenda Items. So we decide to --

>> ABRAHAM OSHADAMI: So we decide to allow time for the CPM text to be fully developed so that we can take an informed position. So we don't quite have any major challenge with this. Thank you.

>> Thank you very much. As for the five gigahertz band and range, we think in the Arab region as the other speakers have mentioned that the band 1.11 is really underserved. As for the other cases, 1.12 and 1.16, in the past meeting of the Arab Group, we have not been Abe to define the specific ranges and bands for ITS. We have considered the 57025 and 5925 and this will be also the topic for the upcoming meeting of the Arab Group. I thank you.

>> KYU-JIN WEE: Thank you. First of all, I appreciate the Chairman of the CPM identified these two different cases and

then in this case I am wondering why 1.11 needs to be considered under these cases. Because in APT there is no discussion under 1.11, so that is the current situation. And within APT at least we don't see the five bands under the 9111.

Regarding the 1.12 and the 1.16, we haven't discussed between the groups, but when I extract the results of the primary review up to now, then I found that those bands, particularly the 5855 to 5925-megahertz bands or a portion of the bands will be discussed heavily under the Agenda Item 1.12. Not in the 1.16.

So with this current preliminary review I expect that those bands will be discussed for the ITS area. Not the RLAN area. That is my understanding based on the current results. Thank you.

>> MODERATOR: Thank you very much for all our panelists for these comments and contributions. And I see that we have four or five minutes late, depending on which clock I look at on the wall. If the interpreters allow me for just one question from the floor, if that is okay.

>> INTERPRETER: Yes, of course, Chairman.

>> MODERATOR: Thank you very much. If I have any comments from the floor?

If not, that concludes our session here. Thank you very much for the panel and for the audience. I think the panel deserves a round of applause for this work. Thank you.

(Applause.)

>> CHAIR: Thank you to all the panelists and the Chairmen of the CPM. We will have a short break of 25 minutes and I propose to resume as scheduled earlier. So it is 4:00 p.m. we will have the final session for this workshop. Thank you.

(A coffee break was taken.)

>> CHAIR: Ladies and gentlemen, if you could kindly take your seats? We will start in two minutes.

(Pause.)

>> CHAIR: I would invite the representative of the Regional Groups, actually the Chairman of the Regional Groups and some representative to join us on the podium.

So we already have with us on the podium the CPM Chairman, Mr. Khalid Al-Awadi. I hope we can start this concluding session in a few minutes. Please join us on the podium.

(Pause.)

>> CHAIR: Thank you very much for being back here to attend this concluding and outlook session. We again have the pleasure to have with us the Chairman of the CPM. He will moderate this session. And then we will look at the closing remarks afterwards. Thank you. Please.

>> MODERATOR: Thank you very much, Philippe. So we are at the last session of our workshop. We had during these two days, I think, a very nice journey on different Agenda Items of the conference. We looked at different issues. I think the whole point of this workshop was not just to look at the positions of the regional groups with regard to the Agenda Items but also look at the different issues, different concerns that people are having with regard to the Agenda Items or to the studies going around these Agenda Items in item.

I think during these two days I had, I heard very nice comments with regard to the agencies on the positions and on other aspects of these studies being done in the Working Parties and the responsible groups.

So this session is, I'm here joined in this session by the representatives and heads of the regional groups. Again I'm honored to have them with me here on the panel. I think now is actually the time to hear back from the heads and representatives of the Regional Groups. The last remarks that they have regarding this workshop. And what conclusions they have with regard to the workshop.

Ladies and gentlemen, let's start this session and I would like to give the floor for the panelists to start their concluding rashes. We'll start with the APT representatives.

>> Thanks, Khalid. Well, I'm GAO from China, the not the Chairman, but Dr. Kyu Wee had to leave and let me take part in this session. Like the colleague mentioned it is a very nice journey which makes us to know more about the provisions and considerations and the study status and the bills views of our Regional Groups which helps us to have our third APG meeting to be held in Perth, Australia, during 12 to 16 March next year.

I cannot give you a detailed description of Perth because I have not been there but I heard it is a very beautiful place. It is also very good for an APG meeting. Welcome to our Regional Groups to our third meeting in Perth.

In document 4, the next part we also share our considerations on Agenda Item 10, the next conference Agenda Items. For APG, sweat up the work programme with our sister AWG. In general, the APG has been leading on the conference Agenda Items. And APG we can assign the technical work to AWG. We requested our members to submit their considerations on Agenda Item 10 to our third meeting. And we may also assign the technical work to our AWG and AWG will feedback to its technical studies to the first meeting, which may also include the regulatory issues.

And for the first meeting it is January 2019. And the fifth meeting we will have our common proposal, if available, on this Agenda Item 10 for the WRC-19. The fifth meeting will be held

the end of July and beginning of August, I think, in Japan. The first meeting in Korea. So that is the one part on the Agenda Item 10.

We also, China also submitted a contribution to the RCC meeting, document 16/6 on the consideration of the deadline for submission of the contribution on the Agenda Item 10. It is proposed, the one month before the start of the conference for the contribution in the rack noted that the contribution and encouraged the administrations to submit their contributions as early as possible, preferably one month before the conference. Let's all the current consideration on Agenda Item 10.

In this next part of the document 4 we also share our view on the issue net one. We observe that the first session of CPM is to coordinate the work programmes among the relevant Study Groups and also to prepare the draft structure for the CPM report. Also follow or take into account the directives which may have from the previous conference and the first session, as colleague mentioned, has also to identify issues to study in preparation for the next conference. But at the same time we also noted that the 9.1 is the report of the Director of the Bureau based on the Article 7 of the convention. In that case, we may share our question if the CPM first session is the proper body to consider the issues, especially for those issues which may not have considerations during the ITU-R studies and also we may have the question if this kind of identification of the issues under 9.1 is a proper way to be continued in the future conference.

Thank you.

>> Thank you very much. Thank you, Khalid, again for Chairing this workshop. I would like on behalf of ASMG would like to congratulate you and the whole team here, ITU, for the success of this workshop (Tariq Al-Awadi.) we have a lot of discussion about the preparation of Regional Groups towards the WRC-19 and what is going on also in different Working Parties and study groups. The latest studies are a result. And we can see that they are going forward. Yes, there are some challenges. We hope that these challenges can be achieved later on with success at the end of the conference in 2019. Nevertheless, there is always those challenges and always we are coming to the solution and finding a compromise on different issues. When we discussed today about those issues where there are overlap or under different Agenda Items, spectrum issues, we have here good comments also from different regions. We also as ASMG would later like to take into account and also to reflect in their preparation. We said at the beginning this is all going on as a permanent posmghts however, positions can be changed also depending on the studies going on and how we can

make sure that the current existing services will be protected and the sharing studies, also compatibilities, success, showing that these services can live together.

As we were saying, these kind of workshops, are attending the other regional group meeting is good to happen in advance in order to know the position or what is each regional group looking for in their Agenda Items and why they are putting their position in such a way. So different countries or different regional groups will understand the position of others ahead of time so that they can work together in order to reach somehow, or closing these gaps between them. And find some solution, compromise solution in order to achieve good results at the conference.

So we really encourage this kind of workshop and encourage also attending the meetings of other regional groups. As we said, the next ASMG meeting will be on the first or second -- seventh of April. Seventh of April in Morocco. We really appreciate all of you, and we invite you for coming to that meeting. We will decide exact the location. We will send you an invitation. All of you are welcome to attend that meeting to see also our position. And that meeting also will be a lot of at least some of the issues that we have put for discussion or waiting for the comments from different countries. We will have it at that meeting and we will change our some position on different Agenda Items based on the studies going on also and based on information that we receive.

So again we are really appreciative for having this kind of workshop. We would like to thank ITU for organising this workshop. And thank you all for coming again to this workshop and hopefully to see you soon also some some other workshop.

>> Yes, thank you. On behalf of the African Group, which I represent, which I have the honor to represent at this roundtable, at the moment we are close to concluding our work. We can express our satisfaction. With the exchanges that have taken place here. The experience has been an exceptional experience. We have heard preliminary views from all of the will regions which are clearly facilitating the preparation of our future conference. The African Group, as we already pointed out at the very outset, have planned four meetings, one of which has already taken place. So we have three further meetings before the conference. There is the preparatory meetings at the African Group. We would also wish to have other inter-regional meetings, perhaps two of them, until the opening of the world conference.

In the past the ITU was not in the habit of organising such conferences. I think this started only with the last conference. It is important to have such exchanges with a view

to facilitating the work of the conference itself with regard to 1.10 concerning future topics. WRC 23, at that level the African Group has simply made its wishes known, that administrations would put forth topics. But that process has ended too early.

Which is a bit regrettable because the proposals that have come with delay often create confusion and do not allow us to work optimally. So the African Group has prepared its proposals for 110. And thank you very much for the holding of this Inter-regional Workshop. We would like to see more of them in the future.

>> Yes, thank you very much, Khalid, for really Chairing this very good workshop. Thank you very much to the ITU also for thinking about a new structure of this Inter-regional Workshop. At least I enjoyed very much to embrace more or less the audience here and I hope you enjoyed it maybe as much a as the panelists have in the last two days. We have seen the first chapters of the book WRC en19. We have got in some of the details. Do not forget there are more Agenda Items that haven't made it to the Agenda of this first Inter-regional Workshop. The handlers are wrestling with those details. We will see more of the maritime issues and we have seen some outlook where we have to discuss our future in radiocommunications. So I would name that Agenda Item 115 on the lower terra Hertz frequencies will be a subject where we definitely will have to think about more in detail later on. That will bring us, at least all of us to some more thinking, what will be then on the next agenda for the subsequent WRC and the future of that one. What from CEPT side we will start our consideration regarding Agenda Item 10 in our next meeting at Budapest in January. With he will make up the structural setup for that one and invite all the CEPT administrations to bring forward their ideas for WRC 23. We have already a couple of Agenda Items coming up from WRC-15 where we have to check if they are really there. We have to check also as we learned from the previous session if there is any overlap which needs to be taken into account and well prepare.

And finally, we will have to take our decision on that one. What we are doing within CEPT, we will definitely work towards as much common European proposals to the conference as possible. And I hope that we can find agreement on some of the Agenda Items as much as possible also that we have, maybe on some of the items a very, very smooth WRC because we have common views on some of the points. Of course, there are always areas of conflict where we need to discuss at the WRC more intense. I'm happy to discuss with all of you then there. Also hopefully present at the next Inter-regional Workshop our further

developments to all the Agenda Items. Then we can write down the next chapters of the books towards WRC-19. Thank you very much.

>> MARTHA SUAREZ: Good afternoon. Allow me to introduce myself. I'm the Vice Chair of the preparatory group for CITEL. We share this chairmanship with Mexico. I have been working with Carmelo on this presentation.

The first thing I wanted to say, I want to thank the ITU for taking the initiative to organise this Inter-regional Workshop. I would add to what the other speakers said. It is very relevant and excellent to hear first hand to all of those parties that are interested in all of the Agenda Items for the conference and to have the opportunity to hear presentations from all of the heads of the Study Groups.

Generally this has been a short, precise and very specialized meeting. I think that is ideal for all of us who are working on these matters. We will take away general understanding of what all of the regions are doing on each of the different positions. I think this will be fundamental for our internal discussions in each of our regions.

Also to respond to the question on item 10 of the agenda for the WRC, in CITEL's case we are still receiving proposals and our next regional meeting will be next week in Balachia in Colombia. We have seen that we do have a specific contribution on the WRC 2023 there. We hope that we will be able to make progress there for the next Inter-regional Workshop. Once again I express my thanks and say that we stand ready to discuss matters with the other Delegations. I've already been able to understand, you have been able to see which persons within CITEL are tasked with each item. We have to be able to carry on working with all of you. Thank you very much.

>> Thank you, Chairman, colleagues. We have noted with satisfaction that one of the main objectives facing this inter-regional workshop to prepare for the conference has been tackled, to establish feedback between the administrations responsible for shaping the agenda and the processes which, or the procedures we should follow within the framework of CPM. In connection with which I would like to extend thanks to you, Mr. Chairman, and the entire Bureau staff including its Director. The fact that we have been discussing these topics for the past two days will help us to speed up the completion of our studies and at our next session in exactly a year's time we will have made progress and we will find ourselves closer to shaping common proposals. But today I can report that within the framework of the RCC we conduct studies. I don't know if it is to go a bit too far to say studies, but we suggest certain modifications to resolution 8 or 4 with regard to the agenda of

the next conference. Because quite often we have tools at our hands which we don't use. If you were to comply with a letter of resolution 8 or 4, many of the matters wouldn't have needed to be discussed in this critical Forum. The fact that the Inter-regional Workshop is helpful, I think, has been borne out once again. With regard to the follow-up meetings, the 2 to the 3rd, that should be helpful not only to Member States but to all other participants of WRC-19. That's why I would like to reiterate this. It's good preparation is the key to success.

The next meeting of our inter-regional group to prepare WRC-19 would be another step in the same direction. I would like to add the following idea here, that we should be very grateful to the current CPM counselor, Mr. Philippe Aubineau, who maintained his web page in ideal state, I believe. So questions were raised. One, this regional, another region would meet. All of the latest data could be found at his web page. So you can get all the necessary information from his web page.

As things stand, I am hard put to say exactly when we are going to have our next meeting. Our tradition is that we hold two meetings a year. Spring session and autumn session. So I believe that by our next meeting, the next meeting of the inter-regional group, by that time we will have our final position and certain elements of common proposals would also be in place, I believe.

In conclusion, I can only thank everybody for their interest in our creative work. And I very much look forward to meeting all of you again in a year's time in order to pick up on our preparation for WRC-19. Thank you.

>> MODERATOR: Thank you very much for all our panelists for these nice concluding remarks. I would like to make actually two apologies. The first apology I forgot to mention in my opening ra remarks for this session the 90th anniversary for the CCIR, ITU radiocommunication Study Groups which was held yesterday. I saw here and I'm sure everyone shares the same thoughts I had. I saw a very nice session with very nice and interesting history of radio regulations and radio use in the world. It was very interesting to hear from all of these people who are involved in radiocommunication use and to hear about all the history behind how the Study Group, how the Study Groups were created and how they worked throughout all these 90 years. So I think that was a very interesting session actually. I would like to congratulate -- first of all I would like to congratulate the ITU, all the people in the ITU. I would like to congratulate all of you on this very nice anniversary.

The second apology I need to make, I failed to mention that I was planning to have a first round of the representatives of the Regional Groups for the concluding remarks on the workshop

itself. And then I was planning to go through the agenda 10 and the future Agenda Items. But I'm so satisfied and confident that even if I make any mistake, it is covered up already. And people have already started talking about the future Agenda Items and Agenda Item 10.

It is just a fact that in resolution, 810, there are specific Agenda Items mentioned. GMSS, satellite service for space born standards around 45 megahertz. There is one Agenda Item mentioned for the space weather and Agenda Item mention for the FSS and 37.5 to 39.5 gigahertz and there is one-, a fifth Agenda Item which is about reviewing the UHF band.

All of these Agenda Items are proposed for the WRC 23, the future WRC that we are having. I'm sure our colleagues here, the representatives have already responded to this. So I think this is already covered up. If anyone would like to make any more comments, they are welcome to do so.

Otherwise, I would like to thank all of the participants for this very nice workshop, very nice two days of interaction with the panelists, interaction with all of the attendees here. Most of all I would like to thank my dear colleague Philippe for all of the arrangements he made regarding this workshop. It was a very huge effort made to arrange all of these sessions and all of the speakers. I would like to thank the ITU, of course, for giving us this opportunity to stand up here and talk to everyone, to talk to even other and communicate and exchange information and exchange all of these background knowledge and information about the Agenda Items.

Thank you very much for everyone and here I would like to invite my dear colleague, Mr. Francois Rancy, the Director of the Radiocommunication Bureau to present us with his final remarks from his side. Please.

>> FRANCOIS RANCY: Thank you very much and good afternoon to all of you, dear colleagues. When you mentioned that you thank the ITU, actually the ITU is you.

(Laughter.)

>> FRANCOIS RANCY: I'm just the Secretariat here. The people who work in Geneva are just the Secretariat. As I often say, we are just here to provide the rooms and we are very happy that we could organise this workshop of two days. I used to say that WRC doesn't last four weeks. They actually last four years. WRC is not a conference. It is a process. And the conference itself is four weeks. It is just the tip of the iceberg. What happens there is essentially determined by the work which is done in the ITU Study Groups and in the Regional Groups and in the Member States and administrations to ensure that we can take the right decisions on the conference.

I think the events like you attended in the last two days is an important milestone to take stock of the progress and start putting in shape the solutions that will be taken during the conference. It has been really a pleasure to work for you these two days. If I don't see you in the following weeks, which I think we only have Study Group 1 Working Parties, I would like to wish you very nice trip back home and a very happy holiday season. Next year will be the year of the Plenipotentiary conference which means that we also will have extra work to make sure that all issues dealing with spectrum and addressed by the Plenipotentiary conference will be resolved satisfactorily as well. And, of course, we have to be essentially to complete the studies for the preparation of the conference.

So with that again thanks to all of you for the good discussions during these last two days. And see you next year. Thank you very much.

(Applause.)

>> CHAIR: Iran would like to take the floor.

>> ISLAMIC REPUBLIC OF IRAN: I echo the Chairman of checkpoint the views about the thanks to the Radiocommunication Bureau for all of the efforts that have been made, all the staff working. That was very useful information sharing among the people being aware of the views of each other and usually it may be difficult to single out one from outside many, but anyway, as you have clearly mentioned the bulk of this work was on the shoulder of Mr. Philippe. He has worked devotedly, enthusiastically with all the efforts and hard work to prepare this, as usual, as preparing the CPM and for the conference and I think I have three comments. But before that perhaps I would suggest that the people give a big round of applause to Mr. Philippe Aubineau.

(Applause.)

>> ISLAMIC REPUBLIC OF IRAN: With your permission, Mr. Director, I have three requests for you. If possible, extend the third meeting from two days, if you have planned, to three days because in that meeting the result of the CPM is available and many results of the regional group are available. It would be a good opportunity to prepare the people for the WRC and those who have not provided the contributions -- not the contributions, the proposals to the conference, they can present their views. Kindly consider that to possibly extend that one.

And the second is whether there will be any outcome from this workshop, in the source of executive summary or main points or outlines, that will be very much appreciated.

Thirdly, we wish to have possibly in the participants of the participants -- the participates, invitees, participants, and in particular we would like to see the ratio of the participation

from the least developed and Developing Countries because the main purpose of this sort of meeting which was suggested in 2006 by one country and now extended was to make it more available for the Developing and Least Developed Countries, that they do not have any capability to come to Study Groups. And that is a good occasion, opportunity for them to exchange views and to be prepared for the conference and for the CPM conference.

Now I give thanks to all the small things that I have mentioned, I have one question to the regional organisation. Please kindly go a little bit more than what you have done. Instead of passive participation, convert your meeting if possible to more interactive participations. I participated in one regional group. Unfortunately the only thing I heard from the Chairman, thank you very much. That's all.

Fortunately, there was two members, state member of that group, they took up the same question that I raised and it was developed, but the group did not want to have any comments from anything outside the region. It was not welcome. So it is better perhaps if possible to extend your procedures to allow, let us have some exchange of views, formally, informally, in any way or a Special Sessions, so on and so forth. It is much more effective because it is difficult to attend the will regional group because of the resources sometimes.

And this is not possible, but if we come, we need the benefit of that. Please kindly consider if possible to allow that interaction. Thank you very much.

>> FRANCOIS RANCY: If I may respond to the two requests from Mr. Arrestai. The statistics of the attendants of course will be available. We also see use the website to report on what happened these last two days. Actually, we have the video of all the discussions that will be put online or which may already be online.

I think the interactive part, as you can see the setting here on the stage was modified since the last events precisely with that purpose, to ensure more interaction between the participants in the panel. But also with the audience. In some way to put the panelists on more exposure, more intention, I would say and emphasize the fact that this is an informal meeting. So we will do what Mr. Arrestai has kindly requested. Thank you very much.

>> CHAIR: Thank you very much. With that, we conclude our workshop with these remarks. Thank you very much to everyone and this workshop is adjourned.

(The event concluded at 1640 CET.)

(CART captioner signing off.)

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