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>> CHAIR: Could you please take your seats? We'll begin with the second plenary. Ladies and Gentlemen, could we start, please? The last session of the plenary today, we will have the presentations from the Study Group Chairmen. Presentation ready now? So we'll start with Study Group 2, Chairman, Marie‑Thérèse, if you will go, please.

>> MARIE‑THÉRÈSE ALAJOUANINE: Good afternoon, everyone. Good afternoon. I'm going to introduce to you the results obtained by Study Group 2 within the ITU‑T sector. This particular group, Study Group 2 is responsible for operational aspects of service provision and telecommunications management. I am not going to go through the entire report. You can find the report in Document 1. This is Document 1 submitted to this WTSA. I, however, am not going to go through the whole report. I'm just going to introduce a few slides to you. And I'm going to make this presentation in French. The document, however, is in English, so I'll be trying to interpret it for myself as I go along.

My presentation, then, will touch on three areas. The Terms of Reference for this Study Group, the achievements of the Study Group over the past four years, and future work.

Now, I'm not going to go into any detail on our Terms of Reference. You can look at that in the report for yourselves. And you can also see it on the website. There are five slides giving the Terms of Reference, but I'm just going to click through them.

So I'm going to move right on to the second part of my presentation and focus on the achievements of the Study Group. As is indicated on the document, most of our work and most of of our achievements ‑‑ obviously this is a summary of what we've done, but most of what we've done is reflected in summary form on this slide.

We've been involved in the continuing assignments of shared numbers resources. That's one very important area of work for us. In fact, numbering, as you know, is a resource that's very precious to us and it's a finite resource. So we really do a lot of work on the international assignments of numbers so that everyone can communicate throughout the world.

As well as that, we have updated recommendation E.101. This is on Terms and Definitions. We have also revised recommendation E.129. This deals with the presentation of national numbering plans. Alongside that, we have approved a new supplement. This is supplement 2 to E.156 on misuse of numbers. And that is certainly a very topical issue.

We have also updated recommendation E.164 and its supplements. This is a recommendation that is widely known and it deals with numbering plans at international level. And we've also updated recommendation E.212. This is the international identification plan for public networks and subscriptions.

Both of these recommendations are very important, indeed, in the area of international numbering.

Then we have new recommendation E.1100 which specifies an international numbering resource for the provision of international assistance lines.

We have also approved another recommendation. E.157 and this deals with international routing within the plan. Then we have 13 new recommendations that have also been approved relating to operational management, including for NGN. And as well as that, we have revised eight recommendations relating to operational management. So that gives you a brief summary of our achievements over the past four years.

So on future work, looking, then, to the future, looking to the next four years, we will be studying new numbering capacity and capabilities relating to numbering, naming, addressing and identification. We'll also be looking at new routing methods. We will be dealing with service definition issues. We will also be handling matters relating to telecommunications for disaster relief in the event of natural disasters, for early warning systems and so on. We will be looking at human factors issues, as well. We will be continuing to study a number of issues relating to networks and service operation and also we will be studying issues relating to telecommunication management.

So that gives you a very brief overview of all of the studies that we will be undertaking in the next four years. I have to say at this stage that I myself will no longer be personally concerned by that work because I'm now coming to the end of my second mandate as Chairperson of the Study Group. So I would like very briefly, then, to bring my presentation to an end by thanking everyone who helped me during my time in office: My Vice Chairs, all of those who participated in the work of this Study Group as well as the TSB staff. Particular thanks goes to Mr. Richard Hill, who was my adviser and counselor during those eight years.

And in conclusion, there is something that I would like to say I rather regret. It seems to me if we look at the number of women in study groups, sad to say the number actually seems to be going down. I was the only woman Chair of a Study Group in the past, and I do hope now we will have women candidates for the Chairmanships of Study Groups because we should be striving for gender equality. That's my hope for the future. Thank you all very much.

[Applause.]

>> CHAIR: Thank you for your work and for the period of eight years of hardworking and dedication. We all thank you for that.

>> Thank you, Chairman. It's a tradition, of course, to recognize the tremendous effort that the Study Group Chairman and Lady Chairman (laughing) carry out over the four years. It's on top of the work that they normally have to do. So it's an extra burden and don't get extra pay for it. So this is a small token of appreciation on behalf of the whole membership of ITU‑T, and each Chairman will be given this. This is especially rewarded in this case since Marie‑Thérèse is completing two terms.

And I hope she will continue to participate in our work and bring all her expertise and experience to the ITU‑T in the next Study Group period. So Mary‑Therese, thank you very much.

[Applause.]

>> CHAIR: Can we now call upon Mr. Kishih Park for the Study Group report.

>> KISHIH PARK: Thank you. Mr. Chairman, distinguished Ladies and Gentlemen. Let me briefly explain the past four years achievement of ITU‑T Study Group 3. As you know, Study Group 3 is especially dealing with some accounting principles, including the latest telecommunications and economic and policy specters. Due to some limited time, I will briefly explain about the Terms of Reference of Study Group 3 and also some highlights of our achievements and some future work plan.

If I explain a bit more detail about the Terms of Reference of Study Group 3, it is accounting methods including costing methodologies for telecommunications services and the start of related telecommunication, economic, accounting and policy issues.

Also, it has some ‑‑ several regional groups as mentioned by the Secretary‑General this morning, there are some SG3, ALG ‑‑ AFR for Africa region and for the Caribbean region and SG3 AO, and we have one more for European and Mediterranean region. But this is not too active and now we are considering to establish one more, which is some Arabic regional group.

If I explain some highlights of our achievement, firstly, SG3 updated D.000 that is Terms and Definitions. In particular, we added a definition of hubbing.

And also SG3 revised D.50, which is regarding international Internet connection and approved the supplement just approved by Malcolm Johnson when he presented some briefly past four activities of ITU‑T.

And also SG3 revised the D.93, which is regarding charging and accounting in the international land mobile telephone service.

And also we approved five new supplements related to avoiding dispute regarding billing.

Also we approved the new supplement to D.211 which is regarding guidelines for international short message services, what we call SMS termination.

And it revised the D.170 monthly telephone and telex account.

And also Study Group 3 devised the ‑‑ revised D.395 that is accounts for telecommunication services.

Also it approved the new annexes to D.156, which is very famous in the past WTSA, just held in Johannesburg, that is regarding on network.

And some more highlights let me introduce. There are some new recommendations D.98 was approved. That is on charging in the International Mobile Roaming Service.

And another contribution from SG3‑point of view, our regional groups of every region submitted many contributions to WCIT issues especially regarding the international telecommunications regulations.

If I say some about future work plan of Study Group 3, it will develop charging and accounting mechanisms for international telecommunications services using NGNs and any possible future development.

It will also do the same kind of work for other international telecommunications services.

It will continuously improve the daily operations, including some work on avoiding billing disputes.

Also it will study economic and policy factors relevant to the efficient provision of international telecommunication services.

And the regional groups of Study Group 3 will study the development of cost models together with related economic and policy issues.

Also, it will continue to study international mobile roaming issues for the next study period.

Like Marie‑Thereseof Study Group 2, now I am leaving Study Group 3 finishing the eight‑year term. So let me express my sincere thanks to all the experts and membership countries who actively contributed to the work of Study Group 3. And especially I would like to thank to the TSB and BDT who actively collaborate with the Study Group 3 work items and study items. And I should express some administrations who actively participate in the work of Study Group 3, especially I would like to mention some country names: United States, Japan and many African countries and Asian countries and all other country experts. They really did a great job for the meaningful achievement of Study Group 3.

I would like to thank again to all of you for the contribution for the work of Study Group 3. Thank you very much.

[Applause.]

>> CHAIR: Thank you for the presentation and the excellent work of Study Group 3.

>> So once again I'd like to give a presentation to Kishih for all the tremendous work he's done not only in the last four years, previous four years. And before that in Vice Chair of TSAG. He's been a great stalwart for the work of ITU‑T the past few years and I appreciate it very much. And I think it's a very difficult job, Study Group. 3, whoever is going to take his place is going to have a challenge. Thank you. Well done, Kishih.

[Applause.]

>> CHAIR: Can I thank Mr. Zeddam for the work for Study Group 5, please. The floor is yours.

>> AHMED ZEDDAM: Good afternoon, Ladies and Gentlemen. It's a pleasure for me to present the outcomes of Study Group 5. And like my colleagues before me, I'll try to be brief as I only have five minutes.

So I'd like briefly to remind you of Study Group 5's mandate and give you a few statistics about this study period. I will focus on the Study Group's main achievements and I'll then move on to future work.

In terms of its mandate, Study Group 5, as you know, broadened its line of work in 2009 because now it deals with the environment in general and climate. So with this new mandate, we are really in charge of climate change. And we work on electromagnetic compatibility and the impact of electromagnetic waves on individuals.

I'd like to mention a few figures now.

Since the last WTSA, we have seen an increase in the number of participants. You can see this on the board. The number of our participants has almost doubled. We've also seen a significant increase in the number of contributions. Where approved recommendations are concerned, we've also seen a significant increase.

In terms of meetings over the study period in 2008, beginning in 2008, we started to have more meetings and we've seen more rapporteurs at work.

I'd like to focus now on some significant achievements. I'd also like to talk about the revision of recommendations. I'll spare you the numbers, but I'd like to say that Study Group 5 deals with the K and L series that are two important letters to remember and where revision of recommendations is concerned, about the way in which electromagnetic effects are perceived. We've revised a number of recommendations which are significant. In the same period, we've produced a number of guides on how it should be implemented, as well. And that's very important, as well.

We have to bear in mind that where robustness is concerned, the ITU is the only competent organisation producing standards in this area. So, that's why these recommendations are very important concerning resistibility.

I'd now like to move on to the second set of results. Here we're talking about another important topic: Human exposure to electromagnetic fields. We don't produce the standards and recommendations in this field, but since we're a global standardization organisation, we do have to provide advice and guidance on operation for assessment, evaluation and monitoring. And to that end, we've produced a very important recommendation. This is the ITU's role, and I'd like to state that this has been carried out in the spirit of Resolution 72 of WTSA '08. So Study Group 5 has produced an efficient response to that call.

I'll skip over this because Malcolm already mentioned this in his presentation. He talked about recommendations on methodologies, how to assess the environmental impact of ICT, greenhouse gases, energy consumption and so on. We're very proud to have produced this first recommendation and which will have global impact.

Another important topic being debated, and Malcolm touched on this, as well, is universal chargers. In technical terms, we realise that this was feasible. We weren't expecting this to take place, and yet the Union managed to do it. And this is something which will allow us to dramatically reduce the amount of waste. 82,000 tons of waste per year we're talking about. So that's a significant figure. Many, many tons of waste will be eliminated as a result of this measure.

I'd like to mention now a final measure. I'll be very brief and move on to future work. We're dealing with 21 questions or more on electromagnetic compatibility to name but one topic. ICT and climate change encompasses many different topics, and so we'll be dealing with these over the next study period.

By conclusion, Ladies and Gentlemen, I'd like to ask you to support the work of Study Group 5 to assist us in fighting against climate change and e‑waste and work on all of the other issues, as well, which allow us to provide more reliable services and better quality services where electromagnetic and environmental issues are concerned.

I'd like to conclude, then, by thanking our colleagues and all the members of the TSB, and a particular word of thanks to Judit Katona Kiss, who was our colleague in Study Group 5 who recently retired, and I'd like to particularly focus on her efforts in my final word of thanks. Thank you.

[Applause.]

>> CHAIR: Thank you, Mr. Zeddam, for your report and for the hard work of Study Group 5.

>> Well, I'm pleased to say that we now have a Study Group Chairman that is not term‑limited. And, Ahmed, I'm sure the Assembly will agree next week will continue as the Chairman of Study Group 5.

I think Ahmed has presided over a tremendous regeneration of Study Group 5 at the WTSA in Johannesburg. There were even some suggestions that Study Group 5 should be combined with another Study Group, and now Study Group 5 is one of the most popular study groups in ITU‑T, over 200 participants. It receives many offers for hosting its meetings and has produced a tremendous output, especially in the environmental area. So, really, that's due very much to the leadership that Ahmed has given to the Study Group over the last four years. And it's a really well‑deserved certificate of appreciation and we thank you very much.

[Applause.]

>> CHAIR: Can I call Mr. Arthur Webster to walk us through the report of Study Group 9, please. Thank you.

>> ARTHUR WEBSTER: Well, Ladies and Gentlemen, distinguished delegates and distinguished guests. My name is Arthur Webster and I'm the Chairman of Study Group 9. Study Group 9 deals with television and sound transmission and integrated broadband cable networks.

Today I'll tell you briefly about our Terms of Reference, the highlights of some of our achievements, the focus group on smart cable television, future work and conclusions.

The Terms of Reference of Study Group 9 include the use of telecommunication systems for primary distribution and secondary distribution of television, sound programmes and related data services, including interactive services. It also includes the use of cable and hybrid networks that were primarily designed for television and sound programme delivery to the home as integrated broadband networks to also carry voice and other time‑critical services, video on demand, interactive services, et cetera. Internet delivery is one important area there.

Study Group 9 is the lead Study Group for integrated broadband, cable and television networks.

Some of our highlights that I'll go over briefly is video quality evaluation over cable networks; free viewpoint television transport; large screen digital imagery; bitstream splicing, including digital programme insertion, which is a way to insert advertisements into a television stream; application platforms for broadcasting, IP‑enhanced broadcast architecture; and service interface for video distribution.

Other highlights include a provider application and service platform for local home environments, residential gateway requirements to support interactive services for hybrid terminal devices, a suite of standards called IPCablecom2, which for many things allow video telephony over cable networks.

Another important area that we have worked on is preferential telecommunications which allows for emergency workers to get priority treatment on telecommunications services over cable networks. Lastly, we have messages and protocols enabling target content distribution for integrated broadband cable networks.

I'll talk briefly about the new focus group on smart cable television. Study Group 9 established this focus group in May of 2012. Its goal is to foster the development of global smart television standards. And the Chairman of this group, this focus group, is Tom Russell of the Society of Cable Telecommunications Engineers in the USA. Vice Chairs are Satoshi Miyaji, Japan; Gale Lightfoot, Cisco, USA; Han‑Seung Koo of Korea; Pradipta Biswas of the University of Cambridge in the UK; and Jingfei Cui of China. The structure is there for you to look at. Our next meeting is the sixth and seventh of December in Shanghai. Anyone that is interested is invited to attend.

Future work during the next study period will include systems for broadcasting of television, including IPTV over cable ‑‑ and telephony and data services. We will continue our long‑standing work in quality assessment of audio and video over cable networks and continue with the transmission of large screen digital imagery, including new services such as 3DTV and ultra high definition TV.

Other work is conditional access, which provides protection of subscription services over cable, and of course smart cable television.

In conclusion, I want to say that in this study period, Study Group 9 approved 35 new and five revised recommendations, and the questions that we've proposed for the next study period will foster development of new recommendations that are required to meet the needs of the cable industry. Thank you very much. And if you have any questions, feel free to find me during the two weeks of WTSA, and I'll be happy to answer questions. Thank you.

[Applause.]

>> CHAIR: Thank you, Mr. Webster, for your presentation and again the excellent work of Study Group 9.

>> Thanks very much, Arthur.

And as you may remember, the WTSA 08 appointed Charlie Sang Bang of the UK for Study Group 9. Unfortunately, he died shortly after WTSA 08; and Arthur was the Vice Chairman, very kindly took over the Chairmanship and has led the Study Group very efficiently and effectively since then. Many of the participants that go to Study Group 9 wouldn't be members of ITU if Study Group 9 didn't exist. And I think that the establishment of this focus group on smart cable TV is going to attract a lot of new members to the group. So we look forward to Arthur taking forward the Study Group in the next term at the Assembly in Greece next week. So thank you very much, Arthur.

[Applause.]

>> CHAIR: Mr. Wei Feng, would you please present the report of Study Group 11? Thank you.

>> WEI FENG: Good afternoon, Mr. Chairman, dear delegates. My name is Feng Wei, Chairman of Study Group 11. In the previous study period, we focused on signaling protocol of NDNand Next Generation Network. I'd like to briefly talk about the scope of work of SG11.

We know that in the traditional network, signaling plays an important role. It's the basis of tradition of TSGN and the smart network and other technologies. All together they make it possible to modernize our ‑‑ in the previous study period, SG11 focused on signaling for Next Generation Network, signaling for the services related to NGN, and also service quality or QoS‑related signaling, including testing and consistence‑related signaling, or conformity‑related signaling. And we can see that we focus on drawing up the protocols, especially those related to signaling for NGN. And also we supplement the previous signaling protocols for NGN.

SG11 is the lead Study Group in signaling protocol, smart network and signaling protocol.

We see that in this period, we see that the resource control protocols represented by Q.33 play a very important role in this area. And Q.36 series is also an important output of SG11. In this study period, we got a lot of input from industry, especially in testing. We can see that Q.39 series has already become the basic standard for testing equipment, especially developing countries.

Our group also launched a number of handbooks to guide operators to apply technologies.

Given this new social context where new technologies are emerging, we have also played an important role in exploring new technological areas, especially in 2012. The M2M focus group was founded in SG11 as the parent group for this focus group has been promoting the application of M2M technology in the industry. This focus group has attracted some verticals, especially SMEs and research entities. The output of the focus group will become the main reference for development standards by ITU‑T and other SDOs.

In the coming study period, we will continue to focus ‑‑ will be a leader in industry, especially in the application of IPv6, Internet of Things, SDN, et cetera. We will be drawing up very important protocol standards. The signaling protocols are very important in the future and will provide end‑to‑end solutions so as to contribute to the modernization of the NGN.

I'm deeply indebted to all the experts from various countries who contributed work of SG11, especially the Vice Chairman of SG11. I'd like to thank them for their contributions.

And you can see that in the coming study period, I look forward to continuing to contribute to the Study Group as Chairman of the group in contributing of the drawing up of signaling protocols in this area. Thank you.

[Applause.]

>> CHAIR: Thank you, Mr. Feng, for your presentation.

>> Thank you very much, Wei Feng. In fact, Study Group 11 is another example of where the Chairman has made a lot of effort to regenerate this Study Group, especially on the focus group on M2M. And since it's the lead Study Group on testing standards, and now that ITU‑T is placing much more emphasis on conformity and interoperability, the importance of this work in Study Group 11 is going to grow as we require testing specifications to be associated with the new standards so that products can be tested. So I'd like to thank very much Wei Feng for all the efforts that he's made and look forward to working with him in the future.

[Applause.]

>> CHAIR: Next we'll have Mr ‑‑ presenting on behalf of Mr. Chuck Dvorak. Thank you.

>> Good afternoon, Ladies and Gentlemen. I am Akaria Takashi from Japan, one of the Study Group 12 Vice Chairman. And Study Group 12 is the lead Study Group on QoS and performance. Our Chairman, Mr. Chuck Dvorak of the USA, could not be with us here in Dubai. And he sends his warmest regards and his best wishes for a successful WTSA. And Mr. Dvorak currently prepared a concise Study Group 12 presentation for you. So let me go directly to Page 4 for the first of three achievement highlights.

The first notes that the operational aspects of QoS previously Study Group 2 was smoothly integrated into Study Group 12 this period. And other reflect that Study Group 12 is parent group for two focus groups in addition to a QoS development group, which we call QSDG, and the regional group for Africa on QS.

And the last bullet captures the progress made in the area of IPTV QoS/QoE studied long ago in Study Group 12.

The next slide further demonstrates the breadth of Study Group 12 achievements by noting new quality‑related recommendations on audio/video streaming, cross‑technology QoS mapping, and prescription‑based quality ‑‑ all of which is very important to maintain end‑to‑end quality telecommunication. The last achievement slide for progress made in Study Group 12, for example, on the wideband model, which is a model for network planners; telemeeting; and home networking.

Note that Study Group 12 approved a new ITU Handbook on Subjective Testing, which is very, very important outcome for developing countries, make use of recommendations created under Study Group 12.

Note the third bullet on telemeeting QoE. That started with a new question under Study Group 12 recently.

And concluding slide emphasizes the end‑to‑end quality perspective that is central to Study Group 12 for all new technologies, networks and services. From basic speech quality to IP‑based multimedia. This is why Study Group 12 keep attracting many highly accomplished QoS/QoE experts from all over the world. So thank you very much for your attention.

[Applause.]

>> CHAIR: Thank you very much for your presentation.

>> Thank you, Dr. Takashi. And finished with 1‑1/2 minutes to spare, so very efficient Vice Chairman. And thank you for standing in for Chuck Dvorak, who unfortunately couldn't be with us. He's actually retiring now. But we are very grateful for all the effort he's put in over the last four years. I hope Chuck is listening to us online so that he can hear this appreciation to all he's done. Thank you very much, Chuck. And give Dr. Takahashi the certificate and perhaps we can pass it out to him. Thank you.

[Applause.]

>> CHAIR: This is the report from the Study Group 13. Can we call Mr. Chaesub Lee to present this? Thank you.

>> CHAESUB LEE: Thank you, Mr. Chairman. Ladies and Gentlemen, I'm Chaesub Lee from Republic of Korea. I served in Study Group 13 as the Chairman for this study period. I'm very delighted to present summary report of this done by Study Group 13 for this study period with great support from our members with contributions with excellent support of TSB.

Our Study Group 13 is the group of NGN. Our mandate has been extended at the last WTSA '08 including mobile engine. The key functions of our study should be requirements, architectures, evolution, composure of future networks. We took several leadership roles in several areas such as for future networks, NGN, public management, and fixed mobile competence. But essentially we take on other leader Study Group work on the cloud computing given by the TSAG at this January meeting.

Our highlight of our achievement of our areas should be the NGN, RENT, IPTV, future networks, cloud computing and internal other things. For those areas, we examine more than 2,500 contributions, including the NGN‑GSI. We produced 87 new and revised recommendations. One recommendation is under TAP now. We also produced 13 supplements and 2 handbooks.

Concerning the NGN development, we developed new functional entities as shown in this diagram with red color and blue colored box. With these developments, we are very delighted to report to the Assembly Study Group 13 is ‑‑ to completion phase. So we agreed to finish the NGN‑GSI and JCA. And based on those functional entities, we developed further service features as shown in this list. For example, the IP‑based NGN and the DSN, USN, other various areas. We developed this so we, as I said before, with this developments, we recognized NGN should be going to completion phase. So we finished which lead initiatives since the year 2004. So this has been agreed at the meeting of this January.

Concerning the IMT 2000, we continue with PP2 with relevant use. With this, we produced the four recommendations which under the P.700 series.

Concerning the IPTV, during this study period, we developed very fundamental frame of recommendations under Y.1900 series. This requires the requirements and architectures and many technical areas. Specifically we continued our collaboration with relevant Study Groups and SDOs through IPTV‑GSI and IPTV‑JCA. We agreed to hand over the IP to area 16 currently very active in this Study Group area. This also agreed at the July meeting.

Concerning the future networks, it is very open new gate for our study for the future of networks, current future networks. We developed under Y.3000 series four objectives and the 12 design goals identified as shown in this diagram. And also candidate technologies like network virtualization, energy savings and other identification subjects have been identified. So we continue our collaboration with specifically future net community extending the collaboration with software defined networking subject areas.

In the cloud computing, this has been attributable the focus on cloud computing. We build dedicated new working party with new questions, and we establish cloud computing JCA provide the platforms for collaboration with other relevant Study Groups and other students.

Concerning the IoT, we developed two, IoT and the world recommendations for Web of Things. We also developed many JCIs and JSAs.

We take the lead under NGN IPTV and cloud computing GSIs and the JCAs, also involved with other GSIs and JCAs.

Concerning the future networks, the key subject study areas should be extended covering the future, cloud computing, mobile, IoT, content distribution, ad hoc networks and NGN announcement. For those areas, we propose 19 questions. You may find all the details in Document No. 14 in terms of requirements, functional architectures, and mechanisms.

We want to expand and expedite our future network studies, particularly the ‑‑ our study on the candidate technologies on SDN and also activate our study on the SDN subject collaborating with relevant SDOs.

We expedite cloud computing development, specifically the strengthen with collaboration with SDOs and also activate IoT‑related studies, especially harmonize with relevant subject like M2M.

As a conclusion, this study period has been successful period for the completion of NGN. We initiated with this NGN activity since year 2004, and this period also very important for us to investigate new subject areas like future networks and the cloud computing. For the next several years, we expect the network study issue to be diverse. So we, Study Group 13, wish to continue our roles to investigate new technologies and incorporate them into the new networks. That's all my presentation. Thank you, Mr. Chairman.

[Applause.]

>> CHAIR: Thank you for your presentation. Could we ask the interpreters for 10 minutes more beyond the hours which were originally planned? So we'll rather than finishing at 5:30 p.m., we'll finish at 5:40 p.m.? Will that be okay for interpreters? We've got three more presentations to go. We hope we could finish within 10 minutes max. Thank you.

>> INTERPRETER: Yes, an extra 10 minutes would be fine.

>> Thank you very much, Chairman. Thank you very much. I'll make my remarks very short. It's good to have Chaesub as Chair of the future Study Group because it's good to see that the work is already looking forward. So thank you very much, Chaesub, for all your efforts.

[Applause.]

>> CHAIR: Next should be the report from Study Group 15. Mr. Maeda, would you please walk us through the report? Thank you.

>> YOICHI MAEDA: Good afternoon, Ladies and Gentlemen. I'm Yoichi Maeda of Japan. And I'd like to introduce you to our challenges in the standardization activity of SG15 to contribute to the realisation of intelligent and ecological ICT infrastructure.

The general area of the study is optical transporter networks and access network infrastructure. SG15 is the focal point of in ITU for the development of standards on optical and other network transport, infrastructure and systems. This encompasses development of related standards for the home and customer premises, network access, metropolitan and long‑haul reception of telecommunication networks.

As Secretary‑General mentioned in his opening plenary, more than 95 percent of telecom traffic carried over the optical transport networks. We are very proud of our contribution to optical transport standardization.

ITU‑T, Study Group 15 is leading the study area of access network transport, optical technology and optical transport networks by having three working party structures.

Working party 1, key achievement on this working party listed on the following slides. And working party 1 on access network, we are leading the standards for the high speed home networking, transport network solution for smart unit and home application, in‑house ‑‑ line, DSL for very short copper accesses and 10‑gigabit‑capable home system for fiber access line.

In working party 2, on optical transport technology, we have contributed to test method of optical fibers and cables, optical terrestrial system at 40 and 100‑gigabit optical component and subsystem. And multi‑channel DWDM applications.

And management for outside facility of optical cables is one of the imagined topic to realise a more resilient and stainable networking structure.

Working party 3 on structure, we have updated the OTN, optical transport network, hierarchy in harmonization with IEEE 40‑gigabit and 100‑gigabit client signals, and develop OTN network function to improve the network resilience and performance for the ‑‑ database networks.

And to contribute to the bridging the standardization gap and dissemination of our standards, we have produced three handbooks to explain the recommendation which SG15 has developed in working party. I'd like to say thanks to the editors and experts who contribute to these handbooks.

Final remark on my report, I'd like to show our future issue the science will never stop and the technology for ICT will increase speed and flexibility of networks. Target for us: Faster broadband access solution and comfortable home networking creation. Also easy and environmentally friendly installation technology for outside plant and much faster and more efficient core transport solution. The key word is beyond 100 gigabit.

To conclude my eight years as Chairman, I'd like to mention that SG15 should continue to lead the development of optical transport network standards in ITU, keeping the collaboration with other organizations such as IEC, IT3 and IETF.

Now SG15 is the largest Study Group in ITU. We have more than 350 participants in each meeting. I'd like to express my great thanks to the many participants and contributors, including Vice Chairman, rapporteur and editors and the last but not least my thanks, TSB. Thank you for your attention.

[Applause.]

>> CHAIR: Thank you for your presentation.

>> Thank you very much, Yoichi. It's been tremendous effort because Study Group 15, as he says, is a huge Study Group, hundreds of documents at each meeting, and has achieved wonderful results, without which, as we say, the International Telecom Network wouldn't operate. Thank you very much, Yoichi. We're very sorry that you're coming to the end of your two terms. Maybe you're relieved but we're sorry. Thank you very much.

[Applause.]

>> CHAIR: Can we call next Yushi Naito for the Study Group 16, thank you.

>> YUSHI NAITO: Good afternoon, Mr. Chairman, distinguished guests and delegates and Ladies and Gentlemen. My name is Yushi Naito of Japan and I'm responsible for the Study Group 16 Chairman and which is responsible for multimedia, coding systems and applications. And today I have to ‑‑ I am asked to go quickly, so I'd like to skip a little bit. Our Terms of Reference relate to studies applications and service.

So in short, we Study Group 16 are responsible for most of the multimedia‑wide ITP. And we are the leading Study Group on the multimedia coding applications and systems and also ubiquitous applications such as e‑health and telecommunication accessibility for persons with disabilities.

And our high achievement highlight of the achievement includes one of the most important things the consideration of H.264 video codec, and we have already expect the next generation high video codec to be approved early next year, and we have also already agreed to start the new two joint collaborations with MPEG 4 scalability and 3D extensions.

And the next important achievement is IPTV. And we have developed many IPTV H.700‑series recommendations. And it covers terminals, frameworks, audience measurement and detailed signage. Already you may have noticed just outside the coffee break area, you can see this time the IPTV showcasing. We are running top runner for the showcasing, and we have already conducted four internal events worldwide and this is the seventh showcase for the IPTV applications.

And also another achievement includes the first application for ubiquitous sensor network. Now it will be changed to Internet of Things and also and tag‑based identifications.

And also we are doing maintenance of essential systems such as H.320 and H.323 and so on. I don't go so much in detail.

And also another important area for us is audio and video coding development and G.71x and G.72x series already cover, extend today the super wideband to the bandwidth.

And also we are studied ‑‑ get some progress on telepresence, advanced multimedia systems, and also we are responsible for the ITS collaboration in ITU‑T. And we are proposed one new focus group on audiovisual multimedia accessibility.

And in this study period, we had received about a little less than 1,000 contributions. And the participants are almost an average 200 people. And we have approved 130 new recommendations and 54 revised recommendations. And in next study period, I believe that we can proceed on direction. And most important thing for us is the collaboration with other bodies.

And regarding our collaboration, we have also made some ‑‑ just outside of the world at the coffee break area. So please also look at these presentations.

And before the ending my presentation, I'd like to thank all the members of the ‑‑ of my management team and also rapporteurs and delegates. And special thanks to the TSB support. Thank you very much.

>> CHAIR: Thank you for your presentation.

>> Thank you very much, Yushi, and also extremely busy Study Group. And I hope you'll continue and make sure that we get this Oscar.

[Laughter]

>> CHAIR: Our final presentation will be on Study Group 17. And please, Mr. Arkadiy Kremer, Chairman, walk us through the presentation. Thank you.

>> ARKADIY KREMER: Thank you, Chairman. Chairman, Ladies and Gentlemen, it is a great honour for me to be here briefly to introduce to you the outcome of the works achieved in Study Group 17 and the prospects for our future work. Study Group 17 works on security. We are indeed the lead Study Group on security. And we interact in that capacity with other SGs. We cooperate, where necessary, also with other organizations that deal with standardization. That being so, we are responsible for defining and supporting general security structures and also for coordinating work with other Study Groups in this area.

For the new study period, it is proposed that we include within our agreement all the modern components of insuring security in the use of ICTs. This will make it possible for us to preserve and to strengthen the relevance of SG17. We will attract the leading global experts on standardization.

Over the past study period, we were actually at the core of competence of ITU on issues relating to identification management, cyber‑security, security architecture, security management, protection of children, protection of personal data, security of IPTV, and efforts to counter spam.

We were really a ground breaker, a pioneer and a leader in terms of studying security for cloud systems. And we did that in coordination with SG13 and other interested structures. We worked through the focus group on cloud computing.

For the next study period, SG17, it is proposed, should we retain all of the matters that have been discussed and should also cluster them, together with a number of other issues that they can study in a more focused way.

We are looking, for instance, at Question R, which is about the use of generic technologies to support applications and this would include a directory that would be a protected directories, infrastructures for open keys, OID, also open distribution processing.

And another question is that of Question S on formal languages for telecommunication software and testing. And this would also involve creating testing specifications. Bringing all of this together in this way shows the very clear interlinkage that exists between formal languages on the one hand and what has been done by Study Group 17 on the other as the lead body working towards harmonization of such languages.

I'm happy to note that over the past four years, we have seen that the number of developing countries involved now has grown and also the number of experts that have participated actively in the work that has been done by SG17. And, in fact, at each of the eight meetings held during the study period, we have actually seen that 155 experts have participated. And that kind of figure is something that is very heartening if we compare it with other figures in the past.

We have also seen that we have been able, in the course of our work, to develop 46 new recommendations, amend 42, develop 8 and produce 42 technical core agenda.

I'd like to thank everyone who has been involved in this work. I'd like to thank the delegates who provided inputs, who participated in our discussion. I'd like to thank all of those that developed texts, our rapporteurs, the deputies and the vice rapporteures. I'd also like to thank the other organizations. I'd like to thank those involved in the work of the focus group. I'd like to thank my own chairs and all of the chairs of the working parties that we set up.

We have always enjoyed understanding and every possible support from Mr. Johnson, the Director of the TSB, and his highly professional team. Also Mr. Zhao, the Deputy Secretary‑General of the ITU and our leader, His Excellency, the Secretary‑General of ITU., Dr. Touré. They have all supported us. I would like, then, to wish them every success in the future and in the next study period.

[Applause.]

>> CHAIR: Thank you for your presentation. I thank you for staying within the allocated timeslot.

>> Thank you very much, Arkadiy, for leading a very busy and successful Study Group over the last four years and your kind words. Thank you very much.

And of course one further certificate left on the table here is of course for the TSAG Chairman. Bruce has already given his report. I've expressed my thanks and appreciation to him. And now we have the photo opportunity.

>> CHAIR: May we please call on the Study Group Chairmen for the group photo. After we close the plenary, we'd like all the Study Group Chairmen to be here to be present to take photo. Your Excellency, you may have the floor.

>> HAMADOUN TOURÈ: Yeah, while the Chairmen are on the way, I would like to take the opportunity to congratulate all the Chairs and Vice Chairs and all the participants in the different Study Groups. We indeed feel very privileged to have such a very high caliber of participants in our Study Groups meetings. And I would also like to thank their companies and their governments who have allowed them to do this contribution to the Union.

I just want to get one simple reminder to all of the Study Groups because except two of them, all of them presented the different recommendations involving ITU‑T mark in this. ITU‑T name, we are very jealous about it. Should be reflected. And there was a decision made three years ago to make sure that in every recommendation you put ITU‑T name followed by the letter A, B, C, D, E or Y and then the numbers. So please continue to do so because that will continue to promote the Union.

So thank you very much again. And really congratulations. And I hope those of you who have finished your term, your two terms, will continue to work with us and we welcome new Chairs and Vice Chairs, of course, in the next cycle. Thank you very much.

[Applause.]

>> CHAIR: Thank you, Your Excellency. With that, we've concluded the work of our plenary for the first day. Thank you very much, everyone, for your participation. And thank you for your patience, the interpreters, thank you very much for your patience with us and indulgence. We have still Steering Committee meeting in Room F. So, please, all the Chairs and Vice Chairs of the committees and the working groups be present at the Room F at 6:00 p.m. Thank you very much again. And hope to see you back on Friday for the next plenary. If there are no further comments, the meeting is adjourned.

Thank you. This meeting is adjourned.

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