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|  | **Radiocommunication Study Groups** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
|  |  |
|  | **Document 5A/114-E** |
| **3 June 2016** |
| **English only** |
| Chairman, Working Party 5A |
| report on the SIXteenth meeting of working party 5a |
| (Geneva, 10-19 May 2016) |

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Annexes

[1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N01!MSW-E) Working Party 5A Management

[2](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N02!MSW-E) Consolidation of texts approved by Working Party 5A

[3](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N03!MSW-E) Consolidation of reports from the Working Groups of Working Party 5A
(Source: Docs. 5A/TEMP/17, 32, 43, 60, 61, 62, 63)

[4](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N04!MSW-E) Working document towards preliminary draft CPM text for WRC-19 agenda item 1.1
(Source: Doc. 5A/TEMP/33)

[5](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N05!MSW-E) Work plan for WRC-19 agenda item 1.1 (Source: Doc. 5A/TEMP/30)

[6](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N06!MSW-E) Working document towards draft CPM text for WRC-19 agenda item 1.11
(Source: Doc. 5A/TEMP/38)

[7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N07!MSW-E) Workplan for preparation for WRC-19 agenda item 1.11
(Source: Doc. 5A/TEMP/42)

[8](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N08!MSW-E) Elements of draft CPM text for WRC-19 agenda item 1.12
(Source: Doc. 5A/TEMP/23R1)

[9](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N09!MSW-E) Draft work plan for WRC-19 agenda item 1.12 (Source: Doc. 5A/TEMP/21R1)

[10](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N10!MSW-E) Working document towards preliminary draft CPM text for WRC-19 agenda item 1.16 (Source: Doc. 5A/TEMP/12)

[11](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N11!MSW-E) Draft workplan for WRC-19 agenda item 1.16 (Source: Doc. 5A/TEMP/53)

[12](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N12!MSW-E) Working document towards preliminary draft CPM text for WRC-19 agenda item 9.1 issue 9.1.5

[13](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N13!MSW-E) Draft workplan for WRC-19 agenda item 9.1 issue 9.1.5

[14](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N14!MSW-E) Preliminary draft revision to Recommendation ITU-R M.1732-1 - Characteristics of systems operating in the amateur and amateur-satellite services for use in sharing studies (Source: Doc. 5A/TEMP/29)

[15](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N15!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[AMATEUR\_50\_MHz] - Spectrum needs for the amateur service in the frequency band 50-54 MHz in Region 1 and sharing with mobile fixed, radiolocation, and broadcasting services (Source: Doc. 5A/TEMP/35)

[16](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N16!MSW-E) Working document towards a preliminary draft new [Recommendation][or Report] ITU-R M.[AMATEUR-WSJT] - Use of structured data, error correction, and encoding/decoding techniques to improve communication reliability in the amateur services (Source: Doc. 5A/TEMP/34)

[17](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N17!MSW-E) Working document towards a preliminary draft revision of Report ITU-R M.2014-2 - Digital land mobile systems for dispatch traffic (Source: Doc. 5A/TEMP/48)

[18](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N18!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[DLMSA] - Digital land mobile systems for specific applications (Source: Doc. 5A/TEMP/44)

[19](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N19!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[RAIL.RSTT] - Technical and operational characteristics, implementation and spectrum needs of railway radiocommunication systems between train and trackside
(Source: Doc. 5A/TEMP/49)

[20](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N20!MSW-E) Working document toward a preliminary draft revision of Recommendation ITU-R M.2015-1 - Frequency arrangements for public protection and disaster relief radiocommunication systems in accordance with Resolution 646 (Rev.WRC-15) (Source: Doc. 5A/TEMP/57)

[21](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N21!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[PPDR SPECTRUM] - Spectrum calculation and requirements for Public Protection and Disaster Relief (PPDR) (Source: Doc. 5A/TEMP/18)

[22](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N22!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[RLAN MITIGATION] - Possible additional mitigation techniques to facilitate sharing between RLAN systems and incumbent services (Source: Doc. 5A/TEMP/52)

[23](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N23!MSW-E) Compilation of technical information on techniques that could be used in RLAN deployments to facilitate sharing (Source: Doc. 5A/TEMP/51)

[24](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N24!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[RLAN REQ‑PAR] - Technical characteristics and operational requirements of WAS/RLAN in the 5 GHz frequency range (Source: Doc. 5A/TEMP/58)

[25](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N25!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[AGGREGATE RLAN MEASUREMENTS] - Use of aggregate RLAN measurements from airborne and terrestrial platforms to support studies under WRC‑19 agenda item 1.16 (Source: Doc. 5A/TEMP/54)

[26](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N26!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[RLAN SHARING] - Sharing and compatibility studies of WAS/RLAN in the 5 GHz frequency range (Source: Doc. 5A/TEMP/59R1)

[27](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N27!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[SHARE] - Sharing schemes in the land mobile service on the basis of geographical use, frequencies, services, new technologies and applications
(Source: Doc. 5A/TEMP/13)

[28](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N28!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[300GHz\_MS\_CHAR] - Technical and operational characteristics and applications of the point-to-point land mobile service applications operating in the frequency band 275-450 GHz - WRC-19 agenda item 1.15
(Source: Doc. 5A/TEMP/2R1)

[29](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N29!MSW-E) Working document towards a preliminary draft new Report ITU-R M.[ITS USAGE] - Intelligent Transport Systems (ITS) usage in ITU Member States
(Source: Doc. 5A/TEMP/24R1)

[30](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N30!MSW-E) Preliminary draft new Report ITU-R M.[RAIL.LINK] - Introduction to specific railway communication systems in the millimetric wave frequency range
(Source: Doc. 5A/TEMP/36)

[31](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N31!MSW-E) List of output documents

**Annexes from previous WP 5A Chairman’s Reports that are being carried forward:**

[Annex 25](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0079!N25!MSW-E) to [Doc. 5A/79](http://www.itu.int/md/R12-WP5A-C-0079/en) (2012): Working document towards a preliminary draft revision of Recommendation ITU-R M.1797 / draft new Recommendation ITU-R M.[5A/VOC] - Vocabulary of terms for the land mobile service.

[Annex 6](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0736!N06!MSW-E) to [Doc. 5A/736](http://www.itu.int/md/R12-WP5A-C-0736) (2015): Elements for consideration in future discussions on Recommendation ITU-R M.2015.

**Management documents referred to in the Report:**

List of input documents: [Doc. 5A/108(Rev.1)](http://www.itu.int/md/R15-WP5A-C-0108)

Final list of participants: [Doc. 5A/113](http://www.itu.int/md/R15-WP5A-C-0113)

# 1 Introduction

Working Party 5A (WP 5A) held its sixteenth (16th) meeting from 10-19 May 2016 in Geneva, chaired by José Costa (Canada). The meeting participants (see list in [Doc. 5A/113](http://www.itu.int/md/R15-WP5A-C-0113)) included 221 participants from 44 countries representing 43 administrations, 5 registered operating agencies, 12 scientific or industrial organizations, one United Nations agency, 2 regional and other international organizations, one regional telecommunication organization, 2 intergovernmental organizations operating satellite systems, one other entity dealing with telecommunications, and the BR. WP 5A held three plenary sessions during the meeting period (on 10, 13, and 19 May 2016).

The meeting dealt with 121 input documents (see list in [Doc. 5A/108(Rev.1)](http://www.itu.int/md/R15-WP5A-C-0108)) and upon their consideration the meeting prepared 63 output temporary documents (see list in [Annex 31](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N31!MSW-E)). The Chairman’s Report is in [Doc. 5A/114](http://www.itu.int/md/R15-WP5A-C-0114/en).

[Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N01!MSW-E) contains the management aspects of WP 5A, including a summary of the status of the texts that are the responsibility of WP 5A and the use of electronic facilities.

The Chairman’s Report of the fifteenth meeting of WP 5A ([Doc. 5A/736](http://www.itu.int/md/R12-WP5A-C-0736)) was adopted, including the objectives for the 16th meeting as presented in Section 4 of [Doc. 5A/736](http://www.itu.int/md/R12-WP5A-C-0736).

The structure of WP 5A for this meeting was also adopted as presented in Section 2.2 of Annex 1 in [Doc. 5A/45](http://www.itu.int/md/R15-WP5A-C-0045).

The Chairman asked the meeting participants to review the list of contacts that appears in Section 4 of Annex 1 in [Doc. 5A/45](http://www.itu.int/md/R15-WP5A-C-0045) and inform him of any necessary changes (the final list appears in Section 4 of the updated [Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N01!MSW-E) ([Doc. 5A/114](http://www.itu.int/md/R15-WP5A-C-0114/en)) and updates between meetings are maintained by the BR and the Chairman of WP 5A). The Chairman indicated this list showing the contacts by topics is used for all liaison statements to external organizations on those topics and the e-mail distribution lists are generated automatically from it. During the 16th meeting a new topic on “railways” was added to the list.

The Chairman of WP 5A presented his report with the results from the tenth meeting of Study Group 5 (20-21 July 2015) of interest to Working Party 5A, in [Doc. 5A/12](http://www.itu.int/md/R15-WP5A-C-0012/en). He also mentioned that at the 11th meeting of SG 5 on 9 May 2016 the existing structure of SG 5 was maintained and SG 5 agreed to form Task Group 5/1 for WRC-19 agenda item 1.13, with Cindy Cook (Canada) as its chairman, and appointed Pietro Nava (Huawei) as chairman of WP 5C. [Document 5/12](http://www.itu.int/md/R15-SG05-C-0012/en) from the chairman of SG 5 with a summary of results of the RA-15 and CPM19-1 was noted. [Document 5/28](http://www.itu.int/md/R15-SG05-C-0028/en) on CCV and SCV activities was also noted.

One liaison statement was noted in [Doc. 5A/107](http://www.itu.int/md/R15-WP5A-C-0107/en), and it was agreed to develop a liaison statement response together with Working Parties 5B and 5C.

The work program for the WP 5A meeting was adopted as presented in [Doc. 5A/ADM/2(Rev.3)](http://www.itu.int/md/R15-WP5A-ADM-0002/en).

At the opening Plenary the Chairman drew the attention of the meeting to the WP 5A texts that are listed in Section 1 of Annex 1 in [Doc. 5A/45](http://www.itu.int/md/R15-WP5A-C-0045) and the [Guide to the use of ITU-R texts related to the land mobile service](http://www.itu.int/oth/R0A06000001/en), asking each Working Group to review the texts assigned to them. [Doc. 5A/42](http://www.itu.int/md/R15-WP5A-C-0042/en) from Canada was presented and it was agreed as the basis for developing the update of the guide during the meeting. The Chairman pointed out the guidelines for the preparation of WP 5A texts in Section 2.3 of Annex 1 in [Doc. 5A/45](http://www.itu.int/md/R15-WP5A-C-0045) and the outline of the preparatory work for WRC-15 in Section 3 of Annex 1 in [Doc. 5A/45](http://www.itu.int/md/R15-WP5A-C-0045).

The Liaison Rapporteurs presented their reports during the 3 Plenary sessions of WP 5A, including on FC-AVA/JCA-AHF by Brian Copsey ([Doc. 5A/103](http://www.itu.int/md/R15-WP5A-C-0103)), on [Disaster Relief](http://www.itu.int/ITU-R/index.asp?category=information&link=emergency&lang=en) by Amy Sanders ([Doc. 5A/105](http://www.itu.int/md/R15-WP5A-C-0105)), on certain countries in Region 2 by Brennan Price ([Doc. 5A/106](http://www.itu.int/md/R15-WP5A-C-0106)), on certain countries in Region 1 by Gabrielle Owen ([Doc. 5A/109](http://www.itu.int/md/R15-WP5A-C-0109/en)), on WWRF by Hitoshi Yoshino ([Doc. 5A/110](http://www.itu.int/md/R15-WP5A-C-0110/en)), and on certain countries in Region 3 also by Hitoshi Yoshino ([Doc. 5A/112](http://www.itu.int/md/R15-WP5A-C-0112/en)).

# 2 Objectives and work programme for the meeting

The objectives for the meeting were adopted as set forth in the Chairman’s Report of the fifteenth meeting of WP 5A (Section 4 of [Doc. 5A/736](http://www.itu.int/md/R12-WP5A-C-0736)) noting that need to consider also the proposals in the input contributions for the sixteenth meeting, in particular those related to the WRC-19 agenda items under the responsibility of WP 5A.

With regard to the update of documents that are the joint responsibility of WPs 5A and 5C, the two Working Parties held a joint meeting and [Section 3.6.1](#s361) summarizes the results of the joint meeting. Future actions regarding future updates of documents that have a joint responsibility will be considered on a case-by-case basis depending on the input contributions and the nature of the proposed update.

The work was carried out within five Working Groups. The responsibilities for input contributions were assigned as per [Table 1](#t1), showing also the organization of the work for the meeting. (The documents in the rows “Reports” and “General” were assigned to all the Working Groups).

The Working Groups prepared revised/new Recommendations, Reports, and liaison statements, and progress reports on the work. The detailed reports from the Working Groups are contained in [Annex 3](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N03!MSW-E). The texts proposed by these Working Groups in TEMP documents ([Annex 31](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N31!MSW-E)) were considered by WP 5A and are either annexed to this Report for further work to be considered at future meetings of or were approved as liaison statements to other Groups or for submission to Study Group 5 ([Annex 2](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N02!MSW-E)).

# **3 Executive summary of the results of the meeting**

## **3.1 Summary of documents approved by WP 5A**

The list of texts that are the responsibility of WP 5A has been updated in line with [Doc. 5/1(Rev.1)](http://www.itu.int/md/R15-SG05-C-0001), including the assignment of responsibilities to the Working Groups of WP 5A and identification of topics for the Recommendations and Reports ([Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N01!MSW-E)).

The consolidation of all the texts approved by WP 5A at its sixteenth meeting, including 24 liaison statements, two notes to the Director, BR, and the update of the [Guide to the use of ITU-R texts relating to the land mobile service, including wireless access in the fixed service](http://www.itu.int/oth/R0A06000001/en) appears in [Annex 2](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N02!MSW-E) to [Doc. 5A/114](http://www.itu.int/md/R15-WP5A-C-0114/en).

## 3.2 Summary of proposals and documents submitted by Working Party 5A to Study Group 5

At the sixteenth meeting Working Party 5A did not complete any documents for submission to Study Group 5.

TABLE 1

Assignment of input contributions and organization of the work for the meeting

NOTE – Documents are posted at <http://www.itu.int/md/R15-WP5A-C/en>

|  |
| --- |
| **Working Party 5A (Chairman:** **José Costa****, Canada; Office: T073; Ext.: 5762)** |
| **Reports** | [736](http://www.itu.int/md/R12-WP5A-C-0736/en), [12](http://www.itu.int/md/R15-WP5A-C-0012/en) (Chairman, WP 5A); [103](http://www.itu.int/md/R15-WP5A-C-0103) (ITU-T JCA-AHF L.R.); [105](http://www.itu.int/md/R15-WP5A-C-0105) (Disaster Relief L.R.); [106](http://www.itu.int/md/R15-WP5A-C-0106) (L.R. #2); [108](http://www.itu.int/md/R15-WP5A-C-0108) (List of documents); [109](http://www.itu.int/md/R15-WP5A-C-0109) (L.R. #1); [110](http://www.itu.int/md/R15-WP5A-C-0110) (WWRF L.R.); [112](http://www.itu.int/md/R15-WP5A-C-0112) (L.R. #2) |
| **General** | [79](http://www.itu.int/md/R12-WP5A-C-0079) [Annex 25](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0079!N25!MSW-E) (WP 5A); [1](http://www.itu.int/md/R15-WP5A-C-0001/en) (Documents carried over); [28](http://www.itu.int/md/R15-WP5A-C-0028) (Chairman, CCV); [42](http://www.itu.int/md/R15-WP5A-C-0042) (Canada); [45](http://www.itu.int/md/R15-WP5A-C-0045/en) (Chairman, WP 5A) |
| **Working Group 1: Amateur Services (Chairman:** **Dale Hughes****, Australia)** |
| **AI 1.1 (Res. 658)** | [9](http://www.itu.int/md/R15-WP5A-C-0009) (WP 6A); [50](http://www.itu.int/md/R15-WP5A-C-0050) (Russian Federation); [79](http://www.itu.int/md/R15-WP5A-C-0079) (Australia); [86](http://www.itu.int/md/R15-WP5A-C-0086), [87](http://www.itu.int/md/R15-WP5A-C-0087) (IARU) |
| **Amateur texts** | [736](http://www.itu.int/md/R12-WP5A-C-0736/en) [Annex 4](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0736!N04!MSW-E) (WP 5A); [43](http://www.itu.int/md/R15-WP5A-C-0043) (Canada); [78](http://www.itu.int/md/R15-WP5A-C-0078) (Brazil); [101](http://www.itu.int/md/R15-WP5A-C-0101) (IARU) |
| **Miscellaneous** | [738](http://www.itu.int/md/R12-WP5A-C-0738) (WP 5B); [76](http://www.itu.int/md/R15-WP5A-C-0076) (USA) |
| **Working Group 2: Systems and standards (Chairman:** **Lang Baozhen****, China)** |
| **AI 1.11 (Railways Res. 236)** | [13](http://www.itu.int/md/R15-WP5A-C-0013) (APT); [48](http://www.itu.int/md/R15-WP5A-C-0048) (Russian Federation); [51](http://www.itu.int/md/R15-WP5A-C-0051) (Japan); [61](http://www.itu.int/md/R15-WP5A-C-0061), [62](http://www.itu.int/md/R15-WP5A-C-0062), [63](http://www.itu.int/md/R15-WP5A-C-0063) (China) |
| **Broadband Wireless Access** | [743](http://www.itu.int/md/R12-WP5A-C-0743) (WP 5C); [10](http://www.itu.int/md/R15-WP5A-C-0010) (WP 6B); [24](http://www.itu.int/md/R15-WP5A-C-0024) (WP 5D); [83](http://www.itu.int/md/R15-WP5A-C-0083) (Indonesia) |
| **Hearing aids and related** | [3](http://www.itu.int/md/R15-WP5A-C-0003) (ITU-T SG 16); [11](http://www.itu.int/md/R15-WP5A-C-0011) (JCA-AHF); [21](http://www.itu.int/md/R15-WP5A-C-0021) (WP 5D) |
| **Land mobile systems** | [736](http://www.itu.int/md/R12-WP5A-C-0736/en) [Annex 5](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0736!N05!MSW-E) (WP 5A); [59](http://www.itu.int/md/R15-WP5A-C-0059) (China); [69](http://www.itu.int/md/R15-WP5A-C-0069) (Mexico) |
| **ANTs & HNTs** | [17](http://www.itu.int/md/R15-WP5A-C-0017), [18](http://www.itu.int/md/R15-WP5A-C-0018), [19](http://www.itu.int/md/R15-WP5A-C-0019) (ITU-T SG 15)  |
| **Out-of-band emissions** | [25](http://www.itu.int/md/R15-WP5A-C-0025) (WP 5D) |
| **Vocabulary** | [29](http://www.itu.int/md/R15-WP5A-C-0029) (CCV & SCV) |
| **Support to other WGs** | *(support WG 4 on RLAN characteristics and WG 5 on millimetre-wave systems)* |
| **Working Group 3: PPDR (Chairman:** **Amy Sanders****, USA)** |
| **PPDR General** | [7](http://www.itu.int/md/R15-WP5A-C-0007) (3GPP TSG SA); [20](http://www.itu.int/md/R15-WP5A-C-0020) (WP 5D); [27](http://www.itu.int/md/R15-WP5A-C-0027) (ITU-T SG 17); [44](http://www.itu.int/md/R15-WP5A-C-0044) (Canada); [104](http://www.itu.int/md/R15-WP5A-C-0104) (CCV & SCV) |
| **Update Rec. ITU-R M.2015** | Res. **646 (Rev.WRC-15)**; [697](http://www.itu.int/md/R12-WP5A-C-0697/en), [698](http://www.itu.int/md/R12-WP5A-C-0698/en) (Australia); [736](http://www.itu.int/md/R12-WP5A-C-0736/en) [Annex 6](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0736!N06!MSW-E) (WP 5A); [14R1](http://www.itu.int/md/R15-WP5A-C-0014) (APT); [60](http://www.itu.int/md/R15-WP5A-C-0060) (China); [67](http://www.itu.int/md/R15-WP5A-C-0067) (Mexico); [75](http://www.itu.int/md/R15-WP5A-C-0075) (USA); [80](http://www.itu.int/md/R15-WP5A-C-0080) (Australia); [85](http://www.itu.int/md/R15-WP5A-C-0085) (Germany, France, UK); [90](http://www.itu.int/md/R15-WP5A-C-0090) (Motorola Solutions); [102](http://www.itu.int/md/R15-WP5A-C-0102) (UAE, Bahrain, Kuwait, Palestine) |
| **Update Rep. ITU-R M.2377** | [66](http://www.itu.int/md/R15-WP5A-C-0066) (Mexico); [82](http://www.itu.int/md/R15-WP5A-C-0082) (Australia); [89](http://www.itu.int/md/R15-WP5A-C-0089) (Motorola Solutions); [94](http://www.itu.int/md/R15-WP5A-C-0094) (Canada) |
| **Working Group 4: Interference and sharing (Chairman:** **Michael Kraemer****, Germany)** |
| **Sharing studies (general)** | [666](http://www.itu.int/md/R12-WP5A-C-0666/en) (WP 3M); [728](http://www.itu.int/md/R12-WP5A-C-0728/en) (WP 4A); [737](http://www.itu.int/md/R12-WP5A-C-0737) (WP 5C); [738](http://www.itu.int/md/R12-WP5A-C-0738) (WP 5B); [741](http://www.itu.int/md/R12-WP5A-C-0741) (WP 5C); [23](http://www.itu.int/md/R15-WP5A-C-0023) (WP 5D); [70](http://www.itu.int/md/R15-WP5A-C-0070), [71](http://www.itu.int/md/R15-WP5A-C-0071) (WP 4A); [95](http://www.itu.int/md/R15-WP5A-C-0095) (Canada) |
| **Dynamic Access – sharing** | *(support WG 5 on sharing & coexistence studies)* |
| **Human exposure to RF fields** | [739](http://www.itu.int/md/R12-WP5A-C-0739) (WP 6A); [2](http://www.itu.int/md/R15-WP5A-C-0002/en) (ITU-T SG 5); [4](http://www.itu.int/md/R15-WP5A-C-0004/en), [5](http://www.itu.int/md/R15-WP5A-C-0005/en) (ITU-T SG 5); [8R1](http://www.itu.int/md/R15-WP5A-C-0008) (ATDI); [22](http://www.itu.int/md/R15-WP5A-C-0022) (WP 5D);[111](http://www.itu.int/md/R15-WP5A-C-0111/en) (ITU-T SG 5) |
| **ITU-T interference** | [107](http://www.itu.int/md/R15-WP5A-C-0107) (CENELEC Meeting Report) |
| **AI 1.16 (Res. 239)** | [700](http://www.itu.int/md/R12-WP5A-C-0700/en), [703](http://www.itu.int/md/R12-WP5A-C-0703/en) (Canada); [736](http://www.itu.int/md/R12-WP5A-C-0736/en) [Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0736!N07!MSW-E) and [Annex 8](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0736!N08!MSW-E) (WP 5A); [38](http://www.itu.int/md/R15-WP5A-C-0038) (WP 7C); [49](http://www.itu.int/md/R15-WP5A-C-0049) (Russian Federation); [57](http://www.itu.int/md/R15-WP5A-C-0057) (Switzerland); [64](http://www.itu.int/md/R15-WP5A-C-0064) (France); [68](http://www.itu.int/md/R15-WP5A-C-0068) (Mexico); [81](http://www.itu.int/md/R15-WP5A-C-0081) (Australia); [88](http://www.itu.int/md/R15-WP5A-C-0088) (Luxemburg); [91](http://www.itu.int/md/R15-WP5A-C-0091), [92](http://www.itu.int/md/R15-WP5A-C-0092) (UK); [96](http://www.itu.int/md/R15-WP5A-C-0096) (ESA); [97](http://www.itu.int/md/R15-WP5A-C-0097) (EUMETSAT); [98](http://www.itu.int/md/R15-WP5A-C-0098) (China); [100](http://www.itu.int/md/R15-WP5A-C-0100) (European Union) |
| **AI 9.1/Issue 9.1.5 (Res. 764)** |  |
| **AI 1.2 (400 MHz Res. 765)** | [30](http://www.itu.int/md/R15-WP5A-C-0030) (WP 7B) |
| **AI 1.3 (460 MHz Res. 766)** | [32](http://www.itu.int/md/R15-WP5A-C-0032) (WP 7B); [65](http://www.itu.int/md/R15-WP5A-C-0065) (France) |
| **AI 1.5 (FSS Res. 158)** | [37](http://www.itu.int/md/R15-WP5A-C-0037) (WP 7C); [73](http://www.itu.int/md/R15-WP5A-C-0073) (WP 4A) |
| **AI 1.6 (nonGSO FSS Res. 159)** | [37](http://www.itu.int/md/R15-WP5A-C-0037) (WP 7C) |
| **AI 1.7 (nonGSO FSS Res. 659)** | [31](http://www.itu.int/md/R15-WP5A-C-0031) (WP 7B) |
| **(AI 1.8) (GMDSS Res. 359)** |  |
| /**1.9.1 (160 MHz Res. 362)** |  |
| /**1.9.2 (VDES/MMSS Res. 362)** |  |
| **AI 1.10 (GADSS Res. 426)** |  |
| **AI 1.13 (IMT Res. 238)** | [33](http://www.itu.int/md/R15-WP5A-C-0033) (WP 7D) |
| **AI 1.14 (HAPS Res. 160)** | [35](http://www.itu.int/md/R15-WP5A-C-0035) (WP 7C); [39](http://www.itu.int/md/R15-WP5A-C-0039) (WP 7B) |
| **EESS 45 MHz (Res. 656)** | [34](http://www.itu.int/md/R15-WP5A-C-0034) (WP 7C) |
| **> 275 GHz**  | *(support WG 5 on sharing & coexistence studies)* |
| **/9.1.3 (nonGSO Res. 157)** | [74](http://www.itu.int/md/R15-WP5A-C-0074) (WP 4A) |
| **/9.1.9 (50 GHz FSS Res. 162)** | [36](http://www.itu.int/md/R15-WP5A-C-0036) (WP 7C); [72](http://www.itu.int/md/R15-WP5A-C-0072) (WP 4A) |
| **Antennas** | [41](http://www.itu.int/md/R15-WP5A-C-0041) (ATDI) |
| **Working Group 5: New technologies (Chairman:** **Hitoshi Yoshino****, Japan)** |
| **AI 1.12 (ITS Res. 237)** | [40](http://www.itu.int/md/R15-WP5A-C-0040) (CITS); [54](http://www.itu.int/md/R15-WP5A-C-0054), [56](http://www.itu.int/md/R15-WP5A-C-0056) (Japan); [84](http://www.itu.int/md/R15-WP5A-C-0084) (Germany, France, Luxemburg); [99](http://www.itu.int/md/R15-WP5A-C-0099) (China) |
| **ITS** | [736](http://www.itu.int/md/R12-WP5A-C-0736/en) [Annex 9](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0736!N09!MSW-E) and [Annex 10](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0736!N10!MSW-E) (WP 5A); [742](http://www.itu.int/md/R12-WP5A-C-0742) (WP 5C); [16](http://www.itu.int/md/R15-WP5A-C-0016) (ETSI); [47R1](http://www.itu.int/md/R15-WP5A-C-0047) (3GPP TSG RAN); [55](http://www.itu.int/md/R15-WP5A-C-0055), [58](http://www.itu.int/md/R15-WP5A-C-0058) (Japan); [77](http://www.itu.int/md/R15-WP5A-C-0077) (Korea); [93](http://www.itu.int/md/R15-WP5A-C-0093) (China) |
| **AI 1.15 (> 275 GHz Res. 767)** | [740](http://www.itu.int/md/R12-WP5A-C-0740) (WP 5C); [15R1](http://www.itu.int/md/R15-WP5A-C-0015) (APT); [26](http://www.itu.int/md/R15-WP5A-C-0026) (IEEE); [33](http://www.itu.int/md/R15-WP5A-C-0033) (WP 7D); [53](http://www.itu.int/md/R15-WP5A-C-0053) (Japan) |
| **CRS / Dynamic Access** | [744](http://www.itu.int/md/R12-WP5A-C-0744) (ITU-D SG 1, ITU-D Co-Chairman for the Joint Group for Resolution 9); [46](http://www.itu.int/md/R15-WP5A-C-0046) (ITU-R/ITU-D Joint Group on WTDC Resolution 9) |
| **/9.1.8 (MTC Res. 958)** | [6](http://www.itu.int/md/R15-WP5A-C-0006/en) (ITU-T SG 20) |
| **Millimetre-wave systems** | [52](http://www.itu.int/md/R15-WP5A-C-0052) (Japan) |

## 3.3 Amateur and amateur-satellite services

Initiated the work towards WRC-19 agenda item 1.1; the preliminary draft CPM text and workplan for this agenda item appear in Annexes 4 and 5 of [Doc. 5A/114](http://www.itu.int/md/R15-WP5A-C-0114/en), respectively. Continued to develop a preliminary draft revision of Recommendation ITU-R M.1732-1 ([Annex 14](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N14!MSW-E)). Initiated a working document towards a preliminary draft new Report ITU-R M.[AMATEUR\_50\_MHz] ([Annex 15](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N15!MSW-E)) and a working document towards a preliminary draft new [Recommendation][or Report] ITU-R M.[AMATEUR-WSJT] ([Annex 16](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N16!MSW-E)). Two liaison statements and a note to the Director, BR, were approved ([Annex 2](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N02!MSW-E)).

## 3.4 Systems and standards

Work on WRC-19 agenda item 1.11 was initiated; the preliminary draft CPM text and workplan for this agenda item appear in Annexes 6 and 7 of [Doc. 5A/114](http://www.itu.int/md/R15-WP5A-C-0114/en), respectively. Work continued on the development of a draft revision of Report ITU-R M.2014 ([Annex 17](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N17!MSW-E)) and the development of two preliminary draft new Reports, ITU-R M.[DLMSA] on digital land mobile systems for specific applications ([Annex 18](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N18!MSW-E)) and ITU-R M.[RAIL.RSTT] on technical and operational characteristics, implementation and spectrum needs of railway radiocommunication systems between train and trackside ([Annex 19](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N19!MSW-E)). Seven liaison statements and a note to the Director, BR, were approved ([Annex 2](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N02!MSW-E)).

## 3.5 Public protection and disaster relief

Two working documents were initiated, towards a preliminary draft revision of Recommendation ITU-R M.2015-1 ([Annex 20](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N20!MSW-E)) and towards a preliminary draft new Report ITU-R M.[PPDR SPECTRUM] on spectrum requirements for PPDR ([Annex 21](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N21!MSW-E)). Three liaison statements were approved ([Annex 2](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N02!MSW-E)).

## 3.6 Interference and sharing

A structure for the work under WRC-19 agenda item 1.16 was developed (the preliminary draft CPM text and workplan for this agenda item appear in Annexes 8 and 9 of [Doc. 5A/114](http://www.itu.int/md/R15-WP5A-C-0114/en), respectively). It was agreed to continue developing the working document towards a PDN Report ITU-R M.[RLAN MITIGATION] describing possible additional mitigation techniques to facilitate sharing between RLAN systems and incumbent services ([Annex 22](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N22!MSW-E)). Four working documents towards preliminary draft new ITU-R Reports were initiated, three of them related to sharing studies in support of agenda item 1.16 (Annexes [24](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N24!MSW-E), [25](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N25!MSW-E), and [26](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N26!MSW-E)) and one on sharing schemes in the land mobile service on the basis of geographical use ([Annex 27](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N27!MSW-E)). Nine liaison statements to other Working Parties were approved, some of them together with WP 5B and WP 5C ([Annex 2](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N02!MSW-E)).

### 3.6.1 Joint meeting of WP 5A and WP 5C

A WP 5A/5C Ad Hoc meeting was held on on Tuesday, 10 May 2016 at 17:30 hours to discuss items of joint interest.

*Update of Recommendation ITU-R F.1336:* It was noted that the contribution from ATDI
([Doc. 5A/41](http://www.itu.int/md/R15-WP5A-C-0041/en) = [Doc. 5C/29](http://www.itu.int/md/R15-WP5C-C-0029/en)) concerned mostly the fixed service and it was agreed that WP 5C would carry out the work and the draft update would be passed to WP 5A for consideration
([Doc. 5A/TEMP/26](http://www.itu.int/md/R15-WP5A-160510-TD-0026/en)).

*Update of Recommendation ITU-R F.758:* It was noted that the two contributions received ([Doc. 5C/37](http://www.itu.int/md/R15-WP5C-C-0037/en) (USA) and [Doc. 5C/53](http://www.itu.int/md/R15-WP5C-C-0053/en) (France)) concerned the fixed service and it was agreed that WP 5C would carry out the work.

*Work on frequencies above 275 GHz:* It was agreed that WP 5A and WP 5C would conduct this work independently under [Question ITU-R 256/5](http://www.itu.int/pub/R-QUE-SG05.256) (mobile service) and [Question ITU-R 257/5](http://www.itu.int/pub/R-QUE-SG05.257) (fixed service), respectively.

*Liaison response to ITU-T Q. 7/5:* Based on [Doc. 5A/2](http://www.itu.int/md/R15-WP5A-C-0002/en) = [Doc. 5C/2](http://www.itu.int/md/R15-WP5C-C-0002/en), Dr. Haim Mazar agreed to prepare a draft for a joint response.

## 3.7 New technologies

Initiated the work on WRC-19 agenda item 1.12 (ITS) and developed a draft work plan and elements of draft CPM text for this agenda item (Annexes 11 and 10 of [Doc. 5A/114](http://www.itu.int/md/R15-WP5A-C-0114/en), respectively). Developed a preliminary draft new Report ITU R M.[RAIL.LNK] of introduction to specific railway communication systems in the millimetric wave frequency range ([Annex 30](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N30!MSW-E)), initiated work on technical and operational characteristics and applications of the point-to-point land mobile service applications operating in the frequency range 275-450 GHz and created a working document towards a preliminary draft new Report ITU-R M.[300GHz\_MS\_CHAR] on this topic ([Annex 28](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N28!MSW-E)). Continued to develop working document towards a preliminary draft new Report ITU‑R M.[ITS USAGE] ([Annex 29](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N29!MSW-E)). Three liaison statements were approved ([Annex 2](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N02!MSW-E)).

## 3.8 Land Mobile Handbook

Since the publication of Volume 5 (Deployment of broadband wireless access systems) no further activity on handbooks has been undertaken yet; WP 5A is maintaining liaison with ITU-D Study Group 2 to assist them with their work. The Land Mobile Handbook Rapporteur informed the meeting that she has initiated soliciting contributions for updates of [Volume 3](http://www.itu.int/pub/R-HDB-47/en) (Dispatch and advanced messaging systems) and [Volume 4](http://www.itu.int/pub/R-HDB-49/en) (Intelligent transportation systems).

## 3.9 Vocabulary

The working document towards the development of the land mobile vocabulary with a view to develop either a new Recommendation or a future revision of the existing [Recommendation ITU‑R M.1797](http://www.itu.int/rec/R-REC-M.1797/en) will be considered at future meetings ([Annex 25](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0079!N25!MSW-E) to [Doc. 5A/79](http://www.itu.int/md/R12-WP5A-C-0079/en)). WP 5A continued the liaison activity with the CCV on terms related to ad hoc networks and PPDR.

# 4 Objectives for the seventeenth meeting of WP 5A

The principal objective for the 17th meeting of Working Party 5A is to continue the work towards the WRC-19 agenda items for which WP 5A is the responsible group and to continue the work on the study questions assigned to WP 5A.

Based on the reports from the Working Groups, the following overall objectives are tentatively set for the 17th meeting of WP 5A:

1) Amateur and amateur-satellite

– Progress the work on WRC-19 agenda item 1.1.

– Continue the development of the preliminary draft revision to Recommendation ITU-R M.1732-1 “Characteristics of systems operating in the amateur and amateur-satellite services for use in sharing studies”, the working document towards a preliminary draft new Report ITU-R M.[AMATEUR\_50\_MHz] “Spectrum needs for the amateur service in the frequency band 50-54 MHz in Region 1 and sharing with mobile fixed, radiolocation, and broadcasting services”, and the working document towards a preliminary draft new [Recommendation][or Report] ITU-R M.[AMATEUR-WSJT] “Use of structured data, error correction, and encoding/decoding techniques to improve communication reliability in the amateur services”.

– Continue to review and update as necessary ITU-R Recommendations, Reports and Handbooks relevant to the amateur and amateur-satellite services

– Review ITU-D Questions, Recommendations, Reports and Handbooks relevant to the amateur and amateur-satellite services and, if necessary, develop liaison statements to responsible ITU-D Study Groups.

2) Systems and standards

Continue the work on WRC-19 agenda item 1.11 and WAS Study Questions on the basis of input contributions and, in particular, to continue the work on:

– Studies of WRC-19 agenda item 1.11

– Development of a preliminary draft revision of Report ITU-R M.2014

– Development of a preliminary draft new Report ITU-R M.[DLMSA].

3) Public protection and disaster relief

– Further develop the working document toward a preliminary draft new Report ITU-R M.[PPDR SPECTRUM], “Spectrum calculations and requirements for Public Protection and Disaster Relief (PPDR)”;

– further develop the working document toward a preliminary draft revision of Recommendation ITU-R M.2015-1; and

– consider consequential revisions to other ITU-R documents under the purview of WG 3, based on [Doc. 5A/80](http://www.itu.int/md/R15-WP5A-C-0080).

4) Interference and sharing

– Provide comments to WP 4A in response to Documents 5A/72 (Issue 9.1.9), 5A/73 (agenda item 1.5) and 5A/74 (Issue 9.1.3);

– review the ongoing work in WP 4A on the working document towards a Preliminary Draft New Recommendation ITU‑R SF.[INTERF.AREA] (see Document 5A/71) and provide comments to WP 4A as appropriate;

– continue to the work under WRC-19 agenda item 1.16 and the related work on the RLAN mitigation techniques;

– consider the proposal to revise Recommendation ITU-R M.1652 or to develop a new Recommendation in this regard.

5) New technologies

– Continue the development of a working document towards a preliminary draft new Report ITU-R M.[ITS USAGE];

– editorially update a preliminary draft new report ITU-R M.[RAIL.LINK] of introduction to specific railway communication systems in the millimetric wave frequency range, with an aim to submit for approval to SG5 at its November 2016 meeting;

– review and update the handbook volume 4 "Intelligent Transport Systems" of the Land Mobile Handbook (LMH);

– continue developing a working document towards a preliminary draft new Report ITU‑R M.[300GHz\_MS\_CHAR] on technical and operational characteristics and applications of the land mobile service operating in the frequency band 275-450 GHz;

– discuss close proximity point-to-point mobile systems based on a carried forward document (Document 5A/52) and new input contributions to the WP 5A 17th meeting.

6) Land Mobile Handbook

– With the completion of 5 volumes of the Land Mobile Handbook (including wireless access), no particular objectives are set for the next meeting. The development of future volumes will be contribution driven.

7) Vocabulary

– Continue the development of the land mobile vocabulary ([Annex 25](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0079!N25!MSW-E) to [Doc. 5A/79](http://www.itu.int/md/R12-WP5A-C-0079/en)) with a view to develop either a new Recommendation or a future revision of the existing [Recommendation ITU-R M.1797](http://www.itu.int/rec/R-REC-M.1797/en).

# 5 Future meetings

The next meeting of WP 5A (#17) is scheduled to be held within the period 7-18 November 2016 in Geneva.  **The deadline for the submission of contributions is 16:00 hours UTC, Monday, 31 October 2016[[1]](#footnote-1)[1].**

# 6 Progression of the work and concluding remarks

The work will continue by correspondence; however, no specific correspondence activities were identified. The correspondence groups will conduct their work using the Share Point facilities as described in Section 6.5 of [Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N01!MSW-E).

[Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0114!N01!MSW-E) also summarizes the status of the texts that are the responsibility of WP 5A (Section 1), the structure of WP 5A (Section 2), and the list of contacts for liaison and collaboration with other organizations under Resolution ITU-R 9-5 (Section 4).

The WP 5A and wireless access systems (WAS) home pages can be found, respectively, at

 <http://www.itu.int/ITU-R/go/rwp5a/en>

 <http://www.itu.int/ITU-R/go/rwp8a-was>.

In closing, the Chairman thanked all the WP 5A participants for their hard work, and in particular the Chairmen of the Working Groups, Ms Amy Sanders and Messrs Dale Hughes, Lang Baozhen, Michael Kraemer, and Hitoshi Yoshino; the LMH Rapporteur, Dr Gabrielle Owen; the vocabulary Rapporteur, Mr Brennan Price; the Liaison Rapporteurs, Mses Gabrielle Owen and Amy Sanders and Messrs Brennan Price, Paul Najarian, Hitoshi Yoshino, Brian Copsey and Haim Mazar; and the BR, in particular the WP 5A Counsellor, Mr Sergio Buonomo, and his team for the excellent support provided at the meetings.

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1. [1]  Members are strongly advised to pay attention to the strict time deadline.  Contributions received after the deadline will be considered at the eighteenth meeting of WP 5A. [↑](#footnote-ref-1)