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| 51st ECC Meeting | |  | |
| Sofia, Bulgaria, 2-5 July 2019 | |  | |
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The 51st meeting of the Electronic Communications Committee (ECC) was held in the city of Sofia, Bulgaria, at the invitation of the Communications Regulation Commission.

# Opening of the meeting

Chris Woolford opened the meeting by welcoming delegates to Sofia, Bulgaria. He thanked the Bulgarian Communications Regulation Commission for hosting the meeting.

Ivan Dimitrov, the Chairman of the Communications Regulation Commission, Bulgaria gave opening remarks and wished participants well for the meeting.

# Adoption of the Agenda, Schedule of work

The ECC Chairman informed the meeting about of the latest revision of the draft agenda. The meeting adopted the agenda as given in Annex 17.

# Procedure for Appointment of Chairmen

At the 50th ECC meeting a call for candidature for the ECC PT1 chairmanship was launched.

One candidacy for ECC PT1 chairmanship from Mr Steve Green was received for this meeting.

Mr Steve Green (United Kingdom) is the current chairman for ECC PT1 where his first term expires in July 2019. Steve made some remarks giving background on himself and detail of his chairmanship of ECC PT1. Following article 9.8.1 of the Rules of Procedure, Mr Steve Green was re-elected as ECC PT1 Chairman.

It was noted that a number of chairmanships and vice-chairmanships were due to expire in the coming months, these were:

* WG FM Chairman (Thomas Weilacher) in March 2020
* WG NaN Chairman (Johannes Vallesverd) in November 2019
* CPG Chairman (Alexander Kühn) after WRC-19
* ECC Vice Chairman (Sergey Pastukh) March 2020

A letter with a call for candidature for these chairmanships will be sent out to CEPT members.

# Reports on ECC and other activities

## Minutes of the 50th Steering Group meeting

The Chairman presented the minutes of the 50th ECC Steering Group meeting in document ECC(19)065 Rev1. The Chairman noted that an initial discussion had taken place on the strategic plan and this would be discussed further under agenda item 14.

## Minutes of the ECC-ETSI meeting

The Chairman presented the minutes of the 22nd ECC-ETSI meeting in document ECC(19)046. It was noted that these meetings take place once a year.

## Minutes of the ECC-EC meeting

The Chairman presented the minutes of the 18 June 2019 ECC-EC meeting in document ECC(19)064. It was noted that these meetings take place twice a year.

## ECO Bulletin on on-going/new issues in other regions or organisations

The ECO presented the ECO Bulletin in document ECC(19)072. Particular attention was drawn to the following issues:

* 5G developments in the Asia Pacific and the Americas.
* Update on NGSO satellite plans in the US.
* Information on new HAPS partnership.

The relevant ECC entities were identified and they will be invited, via the relevant ECO expert, to consider the ECO Bulletin in more detail.

# Report from RSCOM, RSPG and TCAM

The EC gave a report on its latest activities since the last 50th ECC Plenary meeting. This report is given in document ECC(19)079.

# Report from ETSI

Dr. Michael Sharpe (ETSI Secretariat) presented the technical activities of ETSI since the last 50th ECC Plenary meeting. This report is given in document ECC(19)080

ETSI noted the MoU between the ECC and ETSI and proposed to start a co-operative activity to review how spectrum-usage conditions should be communicated between CEPT/ECC & ETSI to achieve the objectives of improved efficiency in spectrum use, while also encouraging innovation and technology development. ETSI proposed that this should cover the best way in which the spectrum-use conditions (also on the receive side) should be defined and the form in which they should be finally communicated. ETSI invited the Chairmen of FM, SE and PT1 to engage in discussions with ETSI on this issue. This way forward was endorsed by the meeting.

# Draft ECC Decisions

## Final Approval of ECC Decision (05)05“Harmonised utilization of spectrum for Mobile/Fixed Communications Networks (MFCN) operating within the band 2500-2690 MHz” **based on the results of the public consultation.**

Mr. Steve Green (ECC PT1 Chairman) introduced the draft revision of ECC Decision (05)05 for final approval for publication following public consultation (ECC(19)047-A01). ECC PT1 had reviewed the technical conditions for suitability for 5G and this revision provides an additional block edge mask in Total Radiated Power (TRP) for active antenna systems (AAS). It was noted that there were two outstanding issues in the decision that PT1 could not resolve, these were:

1. The in-block power limit applying to protect aeronautical primary surveillance radar operating above 2700 MHz.
2. The new additional baseline block edge mask applying in 2690-2700 MHz to reduce the size of co-ordination zones around sites / locations where the Radio Astronomy Service (RAS) is used.

ECC considered input contributions ECC(19)057, 061, 062, 058 and 059.

For the in-block power limit, it was agreed to replace the single in-band e.i.r.p. limit with a range, and provide a corresponding range of TRP limits for AAS.

For the additional baseline limit in 2690-2700 MHz, ECC concluded that it was necessary to include two cases (Case A and Case B): for Case A there would be a limit of 3 dBm/10 MHz and for Case B an additional baseline limit would not be applicable.

In addition, ECC included a note in Decision (05)05 on the feasibility of implementing Case A which acknowledges that meeting the additional baseline limit of 3 dBm/10 MHz at 2690-2700 MHz in wide area outdoor AAS base stations may require evolution of filtering capabilities for AAS and operation at lower power in the highest two 5 MHz blocks.

In order to maintain alignment between the technical conditions in ECC Decision (05)05 and the EU framework, these changes were also included in the CEPT Report 72 on the second 5G mandate (see section 8.2.1) as well as draft ECC Report 308 (see section 10.2).

The ECC approved the revised ECC Decision (05)05 “Harmonised utilization of spectrum for Mobile/Fixed Communications Networks (MFCN) operating within the band 2500-2690 MHz” (**Annex 12/ TEMP 12 Rev2**) and tasked the ECO to publish it.

ECC decided to reset the implementation information for this ECC Decision. 28 countries indicated their intention to implement this ECC Decision. No counties said that they would not implement the revised ECC Decision.

## Final Approval of “ECC Decision (05)02 on a harmonised frequency plan for the use of the band 169.4-169.8125 MHz” **based on the results of the public consultation**.

The following contributions were considered:

* ECC(19)067 from ECO (outcome public consultation),
* ECC(19)045 sect. 1.1 from WG FM (progress report),
* ECC(19)045-A01 from WG FM (draft ECC Decision).

The outcome of the latest WG FM meeting was introduced. The amendment relates to the removal of usage restrictions for equipment that concentrates or multiplexes individual equipment.

The WG FM chairman informed the meeting that a revised version of Annex 1 of ERC/REC 70-03, among others also covering the 169 MHz band, was approved for publication by WG FM #94 in June 2019.

The ECC approved the amended “ECC Decision (05)02 on “A harmonised frequency plan for the use of the band 169.4-169.8125 MHz” (**Annex 05 / TEMP 05**) and tasked the ECO to publish it.

ECC decided not to reset the implementation information for this ECC Decision.

## Final Approval of ECC Decision (09)01 on “Harmonised use of the 63.72-65.88 GHz frequency band for Intelligent Transport Systems (ITS)” based on the results of the public consultation.

The following contributions were considered:

* ECC(19)068 from ECO (outcome public consultation),
* ECC(19)045 sect. 1.2 from WG FM (progress report),
* ECC(19)045-A02 from WG FM (draft ECC Decision).

The outcome of the latest WG FM meeting was introduced.

The WG FM chairman informed the meeting that the same change of the frequency band (from 63 - 64 GHz to 63.72 - 65.88 GHz) is expected for the 7th update of the Commission Decision on SRDs based on CEPT Report 70.

The ECC approved the amendedECC Decision (09)01 on **“**Harmonised use of the 63.72-65.88 GHz frequency band for Intelligent Transport Systems (ITS)**”** (**Annex 06 / TEMP 06**) and tasked the ECO to publish it.

30 countries indicated their intention to implement this ECC Decision. No countries indicated that they would not implement the revised ECC Decision and there were no other comments.

The implementation information is covered by ERC/REC 70-03 (informative Annex A) in EFIS. WG FM will amend entry *g)* of Annex A of ERC/REC 70-03 at its next meeting in February 2020 (change of “63 - 64 GHz” to “63.72 - 65.88 GHz”) and also the reference to the ECC Decision in Table 15 in Appendix 2 of ERC/REC 70-03.

## Final Approval of ECC Decision (11)02 on “Industrial Level Probing Radars (LPR) operating in frequency bands 6-8.5 GHz, 24.05-26.5 GHz, 57-64 GHz and 75-85 GHz” based on the results of the public consultation.

The following contributions were considered:

* ECC(19)066 from ECO (outcome public consultation),
* ECC(19)045 sect. 1.3 from WG FM (progress report),
* ECC(19)045-A03 from WG FM (draft ECC Decision).

The outcome of the latest WG FM meeting was introduced.

The WG FM chairman informed the meeting that the amendments for the range 75 - 85 GHz are in line with the changes as proposed in ETSI System Reference document, TR 103 595.

The ECC approved the amendedECC Decision (11)02 on “Industrial Level Probing Radars (LPR) operating in frequency bands 6-8.5 GHz, 24.05-26.5 GHz, 57-64 GHz and 75-85 GHz” (**Annex 07 / TEMP 07**) and tasked the ECO to publish it.

ECC decided not to reset the implementation information for this ECC Decision.

# CEPT Reports in response to EC Mandate

## Update of EC Decision on SRDs

WG FM, in June 2019, approved for publication - among other Annexes - Annexes 2 and 3 of ERC/REC 70-03. Regarding the 800/900 MHz range, this resulted in a requirement that all mobile and nomadic devices in the data network shall be controlled by Master NAPs which are a subset of NAPs with additional functionality to control these devices.

The text agreed, "All nomadic and mobile devices within the data network shall be controlled by a master network access point (NAP)", has the intention to exempt fixed installed devices (i.e. devices for permanent installation at infrastructure elements such as street lamps or power grid elements) from the requirement. Mobile devices and devices that are not intended for permanent installation or which may be easily moved from one place to another need to implement this requirement.

With these amendments, the relevant usage conditions in Annexes 2 and 3 of ERC/REC 70-03 are less restrictive than the conditions in Commission Implementation Decision (EU) 2018/1538 of 11 October 2018 on “the harmonisation of radio spectrum for use by short-range devices within the 874 - 876 and 915 - 921 MHz frequency bands”.

This issue was also discussed during the Joint ERM TG 28 / SRD/MG meeting on 11 June 2019 (at ETSI) and during the ECC-EC consultation meeting on 18 June 2019 (doc. ECC(19)064).

ETSI informed that the Harmonised Standard is required to follow the EC Decision if it is to be cited in the OJEU. The WG FM Chair pointed out that the EU legislation (Commission Implementing Decision) allows Member States to be less restrictive. The EC was requested to coordinate internally not to block citation of the ETSI Harmonised Standard on the grounds that it is less restrictive than the EC Decision, or that it is considered as not “state of the art” once the relaxation is introduced later in response to the 8th update of the SRD Decision.

The European Commission, Mr Andreas Geiss, informed the meeting that the guidance letter for the 8th update for the EC Decision on SRD will be discussed at the forthcoming RSC meeting on 10 July 2019.

**8.1.1 Update of Annex 3 in ERC/REC 70-03**

WG FM agreed to increase the frequency range for wideband data systems up to 71 GHz. The amended Annex 3 of ERC/REC 70-03 now provides usage conditions for the frequency range 57 - 71 GHz in entries c1, c2 and c3. The updated version of ERC/REC 70-03 has been published and is available in the Document database: <https://www.ecodocdb.dk/download/25c41779-cd6e/Rec7003e.pdf>

The ECC will provide this information to the European Commission on the update ERC/REC 70-03 and the inclusion of the frequency range 57 – 71 GHz as part of the report to the next RSC meeting.

The European Commission, Mr Andreas Geiss, informed the meeting that the extension to 71 GHz had already been taken into account in the draft Commission Implementing Decision for the 7th update (an examination procedure is planned for the RSC meeting on 10 July 2019).

## Second EC Mandate on 5G (900/1800 MHz/2 GHz/2.6 GHz)

### Final approval Draft of CEPT Report 72 ”Report A from CEPT to the European Commission in response to the mandate “to review the harmonised technical conditions for certain EU-harmonised frequency bands and to develop least restrictive harmonised technical conditions suitable for next generation (5G) terrestrial wireless systems”. Review of technical conditions in the paired terrestrial 2 GHz frequency band, and the 2.6 GHz frequency band” based on the results of the public consultation.”

Mr. Steve Green (ECC PT1 Chairman) introduced draft CEPT Report 72 for final approval for publication after the review of public consultation responses by ECC PT1 (ECC(19)047-A03). This provides technical conditions for AAS in the 2 GHz and 2.6 GHz bands.

In alignment with the revisions of ECC Decision (05)05 and ECC Decision (06)01, this Report provides additional block edge masks in Total Radiated Power (TRP) for active antenna systems (AAS) in these bands. It also proposes an update of the non-AAS block edge mask for 2.6 GHz to align with the changes that were made in the July 2015 version of ECC Decision (05)05. For the 2 GHz band it also provides the option to remove the 300 kHz guard bands at the edges of the lower and upper frequency boundaries of the band plan.

The conclusions on the additional baseline in 2690-2700 MHz (see section 7.1) were also applied in CEPT Report 72: Case A and Case B are defined and there is a note on the feasibility of implementation of the additional baseline.

The ECC approved the CEPT Report 72 ”Report A from CEPT to the European Commission in response to the mandate “to review the harmonised technical conditions for certain EU-harmonised frequency bands and to develop least restrictive harmonised technical conditions suitable for next generation (5G) terrestrial wireless systems”. Review of technical conditions in the paired terrestrial 2 GHz frequency band, and the 2.6 GHz frequency band”” (**Annex 13 / TEMP 13 Rev1**) and tasked the ECO to publish it.

## EC Mandate on WAS/RLANs in 5925 - 6425 MHz

**8.3.1 Draft new** CEPT Report 73 ”Report A from CEPT to the European Commission in response to the Mandate to study feasibility and identify harmonised technical conditions for Wireless Access Systems including Radio Local Area Networks in the 5925-6425 MHz band for the provision of wireless broadband services (Part A: Assessment and study of compatibility and coexistence scenarios in the band 5925-6425 MHz)” **for approval for public consultation.**

Mr Thomas Weilacher (WG FM Chairman) introduced draft CEPT Report 73 (Report A) for approval for public consultation (Document ECC(19)045-A04).

Draft CEPT Report 73 (Report A) addresses the technical feasibility of WAS/RLAN in the band, and draft CEPT Report B will address the harmonised technical conditions. WG FM had noted the WG SE liaison statement informing about the publication of the related technical report, ECC Report 302: “Wireless access systems (including RLAN) in the band 5925 - 6425 MHz”.

WG FM had also agreed on a liaison statement to WG SE to initiate complementary studies (doc. FM(19)133 - Annex 38). WG FM had decided that further complementary studies would benefit the work in WG FM and FM 57, when addressing Task 2 of this Mandate, i.e. CEPT Report B (“Development of harmonised technical conditions”).

France introduced document ECC(19)052 containing a study on fixed services and proposing that ECC instruct WGSE to carry out further analysis.

France especially addressed the two protection criteria which are currently defined for the protection of the fixed service, the long term and the short term criteria. France underlined the difficulties associated with mixing up probability of time and the probability of location in Monte-Carlo approach as well as the need to consider in addition appropriate interference criteria applicable for e.g. 2% of the time. France expressed that it does not object to the approval of CEPT Report 73 (Report A) as proposed by WG FM.

ECC noted that there may need to be further consideration on the issue raised in document ECC(19)052. It was felt that the Liaison Statement sent from WG FM to WG SE is sufficient to enable this work to take place. It was noted that ECC Report 302 should not be reopened.

The ECC approved for public consultation the draft new CEPT Report 73 ”Report A from CEPT to the European Commission in response to the Mandate to study feasibility and identify harmonised technical conditions for Wireless Access Systems including Radio Local Area Networks in the 5925-6425 MHz band for the provision of wireless broadband services (Part A: Assessment and study of compatibility and coexistence scenarios in the band 5925-6425 MHz)”. (**Annex 01 / TEMP 01 Rev1**)

It was decided that due to the summer period, this would have a 10 week public consultation instead of the normal 6 weeks.

The WG FM chairman informed the meeting that WG FM had adopted a new work item FM57\_04 for the development of an ECC Decision on WAS/RLAN (Wireless access systems including RLAN) in the band 5925 - 6425 MHz. The ECC endorsed this new work item. The target date of this work item is in line with the schedule of the mandate (final approval of CEPT Report B in July 2020). It may be useful to approve the draft ECC Decision and draft CEPT Report B for public consultation at the same meeting, hence at the ECC in March 2020 to avoid diverging elements (a draft ECC Decision could be approved for public consultation at working group level).

# Others EC Mandates

## EC Mandate on spectrum for the future railway mobile communications system

**WG SE**

The technical studies relating to the EC Mandate on spectrum for the future railway mobile communications system address the compatibility analysis of railway mobile radio in the 900 MHz range and in the band 1900-1920 MHz as well as in the tuning range of 2290-2400 MHz considering that the term “RMR” is used for both GSM-R and future railway mobile communication systems (FRMCS).

Noting the differences on the progress of the studies on each frequency band based on the received contributions, WGSE agreed on having three separate ECC Reports and the WI was modified accordingly:

* Report #A for the 900 MHz frequency band including also GSM-R consideration;
* Report #B for the 1900 -1920 MHz frequency range;
* and Report #C for the 2290 -2400 MHz frequency range.

The studies on 1900-1920MHz have made good progress while the ones on the 900 MHz frequency range and 2290-2400 MHz are still requiring a significant amount of work. These last two frequency bands are more challenging and could take longer to study and consequently the outputs may need to be delayed.

**WG FM**

The work on draft CEPT Reports A and B is ongoing within FM56.

WG FM, at its latest meeting in June 2019, adopted the questionnaire to administrations about the current and future usage of the 2290 - 2400 MHz range (deadline: 23 August 2019).

Furthermore, WG FM agreed to send a liaison statement to ECC PT1 on the statistical approach concept for the LRTC for RMR BS, and to send a liaison statement to 3GPP and ETSI to inform them about the frequency bands under consideration within CEPT for RMR.

**ECC PT1**

Mr. Steve Green (ECC PT1 Chairman) reported that ECC PT1 was including analysis based on the statistical approach suggested by WG FM.

Documents ECC(19)051 (Sweden) and ECC(19)060 (GSA) regarding possible improvements and the practicalities of improvements to MFCN base station receiver performance in relation to the PT1 work item on EC Mandate on spectrum for the future railway mobile communications system were introduced and discussed.

ECC consider that good receiver performance (e.g. blocking and selectivity) is important to enable co-existence and efficient use of the radio spectrum. It was noted that in the current ECC strategic plan a key principle is that receiver parameters are part of the overall spectrum efficiency (See ECC [Strategic Plan](https://www.cept.org/files/16100/ECC%20Strategic%20Plan%202015-2020%20web-ready.pdf) section 3.1.2). Further it was considered that when CEPT / ECC conducts sharing and compatibility studies and identifies that interference may occur due to the performance of the receiver, improving receiver performance should always be considered as a mitigation. This is applicable to all ECC groups.

ECC supported the principle of the proposal on ECC actions on MFCN base station receiver performance (see Document ECC(19)051) but did not consider that a dedicated standalone work item would be required. Instead it was decided that ECC PT1 would be tasked to consider this as part of its current work on FRMCS.

ECC tasked PT1 to consider improvement of MFCN base station receiver performance, in particular, assessment of possible improvement of MFCN BS receiver selectivity and blocking to achieve coexistence between RMR base stations transmitting and MFCN base stations receiving. Where interference may occur due to the performance of the receiver, improving receiver performance should be considered as a mitigation. It was noted that receiver performance is part of the overall consideration on coexistence and other complementary tools / mitigations could also be considered.

It was identified that MFCN base station receiver performance could be considered under Work Item PT1\_20 and a modification to the scope was agreed to facilitate this.

It was also identified that MFCN base station receiver performance could also be considered under the second stage of the Second EC Mandate on 5G in its further activity on 900 MHz and 1800 MHz.

ECC also noted that this issue is also applicable to WG FM, WG SE, SE7 and FM56 which are considering FRMCS and more generally receiver performance. WG FM and FM56 are tasked with defining the regulatory framework for FRMCS. In particular, based on elements received from PT1, WG FM and FM56 will assess whether there is a requirement for ETSI to upgrade MFCN BS blocking and selectivity and/ or blocking in the relevant MFCN BS harmonised standards.

ETSI took note of the initiative of ECC to reconsider the spectrum-sharing assumptions for FRMCS and MFCN regarding expected receiver performance. ETSI looks forward to contributing to the studies and receiving, if any, the revised sharing assumptions to enable any necessary modifications to the Harmonised Standards.

ECC agreed that good receiver performance is important to enable co-existence and efficient use of the radio spectrum. In the case of FRMCS, improving MFCN base station receiver performance should be considered in the overall co-existence study as an option.

ECC agreed to modify Work Item PT1\_20 (**Annex 15 / TEMP 15**) to facilitate consideration of improving MFCN base station receiver performance.

# Other ECC deliverables for decision

## 26 GHz

* Final approval Draft ECC Report 303on **“**Guidance to administrations for Coexistence between 5G and Fixed Links in the 26 GHz ("Toolbox")” based on the results of the public consultation.

Mr. Steve Green (ECC PT1 Chairman) introduced draft ECC Report 303 for final approval for publication following public consultation (Document ECC(19)047-A06). This ECC Report provides a toolbox for administrations to help in the process of introducing 5G while managing national coordination with fixed services. ECC PT1 had reviewed all of the public consultation responses and resolved all of the comments as presented in Document ECC(19)047-A07.

The ECC approved ECC Report 303 on “Guidance to administrations for Coexistence between 5G and Fixed Links in the 26 GHz ("Toolbox")” (**Annex 02 / TEMP 02**) and tasked the ECO to publish it.

* Draft New ECC Report 307 on “Toolbox for the most appropriate synchronisation regulatory framework including coexistence of MFCN in 24.25-27.5 GHz in unsynchronised and semi-synchronised mode” for approval for public consultation.

Mr. Steve Green (ECC PT1 Chairman) introduced the draft new ECC Report 307 for approval for public consultation (Document ECC(19)047-A08). This draft ECC Report provides a framework for 5G in unsynchronised and semi-synchronised modes in 26 GHz and it follows a similar approach to previous work on 5G synchronisation in 3400-3800 MHz. It includes minimum separation distances for unsynchronised operation and options to mitigate interference at smaller separation distances, including synchronising networks, using semi-synchronised operation or using stricter emission limits. For indoor deployments unsynchronised operation is possible using equipment complying with the baseline requirements.

The ECC approved draft new ECC Report 307 on “Toolbox for the most appropriate synchronisation regulatory framework including coexistence of MFCN in 24.25-27.5 GHz in unsynchronised and semi-synchronised mode” (**Annex 03 / TEMP 03**) for public consultation.

It was decided that due to the summer period, and the need to prepare the summary of responses before the next ECC PT1 meeting (10-12 September) the public consultation would close on 30 August.

## **5G in 2.6 GHz**

## **Draft New** ECC Report 308“Analysis of the suitability and update of the regulatory technical conditions for 5G MFCN and AAS operation in the 2500 – 2690 MHz band” **for approval for public consultation.**

Mr. Steve Green (ECC PT1 Chairman) introduced draft ECC Report 308 for approval for public consultation (ECC(19)047-A05). This ECC Report provides analysis of the suitability and update of the regulatory technical conditions for 5G MFCN and AAS operation in the 2500-2690 MHz band. This includes analysis of compatibility between AAS and non-AAS in the same band and compatibility of AAS with other services outside the band.

The conclusions on the additional baseline in 2690-2700 MHz (see section 7.1) were also applied in this draft ECC Report: Case A and Case B are defined and there is a note on the feasibility of implementation of the additional baseline.

The ECC approved Draft ECC Report 308 “Analysis of the suitability and update of the regulatory technical conditions for 5G MFCN and AAS operation in the 2500 – 2690 MHz band” (**Annex 14 / TEMP 14 Rev1**) for public consultation.

It was decided that due to the summer period, and the need to prepare the summary of responses before the ECC PT1 meeting (10-12 September) the public consultation would close on 30 August.

## Low power audio PMSE in 960 - 1164 MHz

## Draft New ECC Report 306 on “low power audio PMSE in the band 960 – 1164 MHz” for approval for public consultation

Mr. Thomas Weilacher (WG FM Chairman) introduced the draft new ECC Report 306 for approval for public consultation (Document ECC(19)045-A05, section 1.7).

Following the direction provided by ECC#49 in October 2018, the work on the draft ECC Report had been finalised. WG FM had endorsed the part from FM51 and had agreed on the structure and on the main body of the draft ECC Report. The draft ECC Report now contains two Appendices, one from FM51 and one from WG SE (SE7). The Executive Summaries of both Appendices were included in the main body of the draft ECC Report. The relevant information from WG SE is provided in doc. ECC(19)050, section 3.1.

The ECC approved Draft “ECC Report 306 on **“**low power audio PMSE in the band 960 – 1164 MHz**”** **(Annex 04 / TEMP 04)** for public consultation.

It was decided that due to the summer period, this would have a 10 week public consultation instead of the normal 6 weeks.

Statement from APWPT:

*”At the last meeting of the Link16 working group MWGN, APWPT had informed on the upcoming public consultation of draft ECC Report 306. If necessary, the MWGN would support the public consultation. In addition, in this meeting, concepts for a changed frequency usage by the JTIDS/MIDS application had been discussed. The reason is apparently the intended expansion of the LDACS radio system, especially in the band 964 - 1010 MHz. This can influence the usability of these frequencies by Audio PMSE. APWPT kindly asks all radio administrations, before participating in the public consultation, to check whether the expansion of LDACS is also intended in their countries.”*

Statement from France:

*“France highlighted that LoU and MoU partners should limit their contribution to their area of expertise.”*

## **CEPT roadmap on 5G**

The ECO provided in document ECC(19)073, based on the version as agreed by ECC#50 in March 2019, updated the CEPT 5G roadmap taking into account the related ECC activities, in particular to reflect the related deliverables recently approved. This update took into account the proposal of WGFM in relation to item D.4 (60 GHz), ECC(19)045 section 1.8. Item D.5 relating to general authorisation was updated to give a link to the new PT1 work item covering “authorisation regimes other than individual rights of use” in the 26 GHz band (see section 17).

The ECC endorsed the CEPT roadmap on 5G **(Annex 10 / TEMP 10)**

# ECC deliverables in progress, newly proposed or under review and other issues from the subordinate bodies

## **Drones**

WG FM, at its latest meeting, had considered the outcome of the first FM59 meeting. WG FM had adopted the new work item FM59\_02 (new ECC Report on spectrum solutions for UAS (excluding MFCN UAS)) and had closed work item FM59\_01. The new WI FM59\_02 no longer refers to U-Space. Another work item on U-Space could be adopted in the future when more detailed information about the requirements for U-Space will be available.

**11.1.1 Spectrum for drones (Update)**

WG FM had sent a liaison statement to WG SE to request technical studies related to UAS in the 1880 - 1900 MHz, 1900 - 1920 MHz and 5000 - 5010 MHz bands (amendment of the LS send out in February 2019). The results will be taken into account by FM59 during the ongoing activities on the draft ECC Report.

**11.1.2 Usage of drones in harmonised MFCN bands (Update)**

Mr. Steve Green (ECC PT1 Chairman) gave an update on the progress of the new report on the usage of UAS / Drones in MFCN bands (see ECC(19)047). It was noted that 3GPP considers there is no technical difference from an interference point of view between an aerial user equipment installed on a drone and an aerial user equipment installed on an aircraft that has a pilot onboard. However, the FM chairman noted that the usage scenarios for some aerial UE could be very different compared to those for drones (e.g. because of the different height above ground). The WG FM chairman asked whether the relevant response to the original request from WG FM to PT1 would clearly show the UAS / drone aspects. It was confirmed that the report from ECC PT1 would provide all the information that WG FM needs to answer its request for technical analysis on the use of MFCN to provide the command and control and payload of UAS. Good progress is being made on this report and it is expected to be completed and ready for public consultation at the 63rd ECC PT1 meeting in September 2019. Because there is no ECC plenary meeting until March 2020, ECC PT1 sought permission to launch the public consultation after its 63rd ECC PT1.

Document ECC(19)077 from France supported launching the public consultation from ECC PT1 #63 and helping to achieve an agreed output in September by:

* excluding the 1.5 GHz (L band) and 2.3 GHz bands from the scope of studies on drones
* Addressing only the 3.5 GHz band concerning the AAS scenarios

AAS scenarios in other bands, including at 26 GHz, should be studied in a second step.

ECC endorsed the way forward proposed by ECC PT1 for the adoption process of a draft ECC Report on Usage of drones in harmonised MFCN bands:

* Adoption for public consultation by ECC PT1 at its meeting in September 2019
* Review of the responses by ECC PT1 at its January 2020 meeting and submission to ECC of a draft version for final approval at the 52nd ECC meeting (March 2020).
* ECC also endorsed the proposal to reduce the scope of studies as outlined in ECC(19)077.

ECO informed the meeting that according to the Working Methods, the draft ECC Report agreed for public consultation by ECC PT1 would be notified to CEPT members immediately after the ECC PT1 meeting and if no objections were received in a two-week period, the public consultation would be launched.

It was noted that permission to launch public consultation from ECC PT1 is on an exceptional basis because there is no ECC meeting in the autumn.

## Review of revision ERC Recommendation 74-01 (Update)

The updates of REC 74-01 concerned the following issues:

* Unwanted emission limits for fixed service;
* Limits for SRDs;
* Unwanted emission of active antenna systems (AAS) used for beamforming and MIMO by 5G systems and its relation to TRP;
* Satellite;
* Broadcasting;
* Spurious emission below 9 kHz.

After having reviewed the input documents on this topic and agreeing on the modifications above, WG SE adopted the revision of ERC REC 74-01. The corresponding WI SE21\_20 was closed.

WG FM, ETSI TC ERM, 3GPP TSG RAN and 3GPP liaison coordinator as well as WP-1A were informed about the adoption of this revision.

ECC noted that ERC Recommendation 74-01 has been a standing item on the agenda but now that this revision is complete it can be removed from future ECC plenary agendas.

## Iridium NEXT satellites, measurements in Leeheim (Update)

Following the first measurements of the emissions of Iridium Next satellites in 2017, several measurement aspects were identified that required further improvement, related to the Leeheim station as well as to the post-processing tools used to estimate the RAS data loss in the adjacent band 1 610.6 – 1 613.8 MHz.

WGSE chairman reported the elements provided by SE40 at ECC level, noting the budget issues highlighted by the SE40 chairman.

## **Review** of ECC/ERC/ECTRA Decisions

The WG FM chairman introduced Annex 6 to the WG FM progress report (ECC(19)045), which provides the updated list of ECC/ERC/ECTRA Decisions. WG FM agreed to delete the columns showing the information on implementation from the list, because this information is anyway available on the ECC website and there is no need to duplicate this information.

Administrations were invited to verify their national information on the implementation of ECC/ERC/ECTRA Decisions and to provide updated information to the ECO if needed.

The WG FM chairman referred to ECC/DEC/(06)10 in the list. WG FM #88, based on survey results, had already concluded that ECC/DEC/(06)10 of 1 December 2006 on ‘transitional arrangements for the Fixed Service and tactical radio relay systems in the bands 1980-2010 MHz and 2170-2200 MHz in order to facilitate the harmonised introduction and development of systems in the Mobile Satellite Service including those supplemented by a Complementary Ground Component’ could be withdrawn in the year 2019, because real FS usage did not in practice exist anymore.

Administrations are requested to verify until the next WG FM meeting (#95) in February 2020 whether this ECC Decision can be withdrawn. If no objections are submitted before this meeting, a new ECC Decision for the withdrawal will be on the agenda for the WG FM #95 meeting

The list, after amendments based on the conclusions drawn during the meeting, was endorsed by the ECC meeting (**Annex 19 / TEMP 19**)

It will also be made available electronically on the ECC website.

**11.4.1 Revised ECC Decision (08)01 on ITS**

The WG FM chairman provided an overview on the activities on ITS (Document ECC(19)045 - section 1.10.1). Revised versions of ECC Decision (08)01 on the harmonised use of the 5875 - 5935 MHz frequency band for safety related Intelligent Transport Systems (ITS) and of ECC Recommendation (08)01 on the use of the band 5855 - 5875 MHz for non-safety related Intelligent Transport Systems (ITS) were approved for public consultation (deadline: 15 November 2019). The outcome of CEPT Report 71 was taken into account.

WG FM also approved a LS to WG SE asking WG SE to carry out an analysis of co-channel sharing between fixed service and urban rail in the 5925 - 5935 MHz band.

**11.4.2 ERC/DEC(99)06 (S-PCS below 1 GHz)**

Document ECC(19)045 (section 1.10.2), related to ERC Decision (99)06 on “the harmonised introduction of satellite personal communication systems operating in the bands below 1 GHz (S-PCS < 1 GHz)”, was introduced. It defines milestone criteria for S-PCS systems operating below 1 GHz.

A declaration for a new system candidate (‘Hiber’) was submitted to WGFM#94 (06/2019) / FM44 by the Netherlands (to include ‘Hiber’ in Annexes 1 and 2 of ERC/DEC/(99)06). WG FM was also informed that a declaration for another system can be expected in the near future.

ERC Decision (99)06 requests technical studies before a system can be added in an annex and therefore a liaison statement to WG SE had been approved by WG FM (with regard to ‘Hiber’). Hiber’s operations are expected in the frequency bands 399.9 - 400.05 MHz (Earth-to-space) and 400.15 - 401 MHz (space-to-Earth).

Technical studies are required with regard to sharing between the newly proposed satellite system with other satellite systems, which have been declared so far according to the ERC Decision, and with terrestrial systems.

Some clarification was required from WG FM, mainly because the ERC Decision had not been revised over many years. The ECC agreed on the following:

* The current version of ERC/DEC/(99)06 as in force should be applied with regard to requests from CEPT administrations;
* FM44 should act as the CEPT ‘competent body’ according to ERC/DEC/(99)06; relevant sessions of FM44 shall be restricted to administrations only in order to avoid competition issues;
* WG SE (SE40) should be involved by WG FM (FM44) with regard to the required technical studies;
* A public consultation before adding new systems in an annex of ERC/DEC/(99)06 is needed (see ECC RoP);
* During a second step, WG FM (FM44) should start the revision of ERC/DEC/(99)06 together with the revision of ERC/DEC/(99)05 (“Free Circulation, Use and Exemption from Individual Licensing of Mobile Earth Stations of S-PCS < 1 GHz systems”) and ECTRA/DEC/(99)02 (“Harmonisation of authorisation conditions in the field of Satellite Personal Communications Services (S-PCS) in Europe, operating in the bands below 1 GHz (S-PCS < 1 GHz)”).

France introduced document ECC(19)055. France proposed to add the ARGOS system (frequency bands 399.9 - 400.05 MHz (Earth-to-space) and 400.15 - 401 MHz band (space-to-Earth)) in the Annex(es) of ERC Decision (99)06 and to conduct relevant compatibility studies within WG SE. The proposal was submitted to the ECC plenary because the next WG FM meeting will be in February 2020 and France was interested to initiate the relevant steps earlier. The Netherlands informed the meeting that a request regarding Hiber was submitted to FM44 in December 2018.

ECC agreed that WG FM (FM44) and WG SE (SE40) take into account the ARGOS system noting that the declaration for the Hiber system was received before the declaration for the ARGOS system.

The ECC tasked FM44 to deal with the issues raised in the input document from France in accordance with the milestones set out in ERC/DEC(99)06. FM44 was invited to liaise as appropriate with SE40 to address this issue.

# Work Programme of the ECC and its subordinated bodies

**WG FM**

During the 94th WG FM meeting (see doc. ECC(19)045, section 1.11) new work items were adopted, FM57\_03, FM57\_04 and FM59\_02. Some work items were amended (regarding the target date) and closed (because the relevant work had been finalised).

**WG SE**

During the 82nd WG SE meeting, some work items were modified slightly and the following new work items were added to the WG SE work programme:

* WI SE7\_31: UAS in the 1880-1920 MHz and 5000-5010 MHz bands
* WI SE40\_37: Aeronautical NGSO ESOMPs
* WI STG\_07: Digital terrain data in SEAMCAT

During the 82nd WG SE meeting, the following working items have been closed:

* WI SE45\_01: approval of ECC Report 302: Wireless access systems (including RLAN) in the band 5925-6425 MHz
* WI SE21\_19: approval of ECC Recommendation (19)02: Guidance and methodologies when considering typical unwanted emission in sharing/compatibility studies
* WI SE21\_20: approval of revision of ERC REC 74-01: Unwanted emissions in the spurious domain
* WI SE19\_40: approval of revisions of Recommendations ERC REC (01)02, ERC REC 12-03, ERC REC 12-06, REC T/R 12-01, and REC T/R 13-02 relative to the doubling of maximum channel width for some selected FS bands in the range from 11 to 38 GHz (11 GHz, 18 GHz, 23 GHz, 28 GHz, 32 GHz, 38 GHz)

**ECC PT1**

There were no proposals for new work items or changes to the work programme from ECC PT1.

ECC PT1 sought permission to launch public consultation on the new ECC Recommendation on the 26 GHz FSS toolbox as the next ECC plenary meeting is not until March 2020.

The ECC agreed ECC PT1 can launch public consultation on the new ECC Recommendation on the 26 GHz FSS toolbox.

According to the Working Methods, the draft ECC Recommendation agreed for public consultation by ECC PT1 would be notified to CEPT members by ECO immediately after the ECC PT1 meeting and if no objections were received in a two-week period, the public consultation would be launched.

It was noted that permission to launch public consultation from ECC PT1 is an on an exceptional basis because there is no ECC meeting in the autumn.

All decisions from WG FM, WG SE and ECC PT1 related to the work items were endorsed by the ECC meeting.

# ECC workshop on verticals / stakeholders (02 - 03 May 2019) report back

A short summary of the CEPT Workshop on “New Spectrum Solutions for Industry Sectors”, held in Copenhagen (2-3 May 2019) was presented by ECO in Doc. (19)074. The detailed information of the workshop is available at the following links:

[Workshop background and agenda](https://cept.org/ecc/cept-workshop-on-new-spectrum-solutions-for-industry-sectors)

[Presentations](https://www.cept.org/ecc/tools-and-services/cept-workshops/cept-workshop-on-new-spectrum-solutions-for-industry-sectors)

The ECC considered the outcome of the workshop in particular the challenges and the way forward, taking into account the views from various industry sectors and administrations. While no specific action was identified for the ECC, it was noted that many of the issues would need to be considered under the strategic plan discussions.

# ECC Strategic plan

The ECC Chairman introduced a discussion of the ECC strategic plan, noting that the current plan runs until 2020. He explained that it was therefore useful to start the discussion now to get administrations thinking about the next iteration which would cover the period 2020-2025. He noted the intention that this new ECC strategic plan would be adopted at the ECC meeting in July 2020.

The Chairman explained that an initial discussion about the new strategic plan had taken place at the steering group meeting held in June 2019 – notes of this discussion were contained in section 8 of Document ECC(19)065 Rev1. The Chairman gave a brief overview of these discussions, including the process for agreeing the new plan, and invited comments from ECC members.

There was question around participation of observers in the process for developing the new strategic plan. After some discussion it was felt that the process should be open to all ECC members (including observers) but noted the intention to keep the plan at a suitably strategic level. In other words, it should not be a vehicle for interested parties to promote their particular sector interests in relation to spectrum.

In the first instance it was agreed that ECO would establish a correspondence group over the summer to which interested parties would be able to feed in ideas relating to the development of the strategic plan. The ECC Chairman committed to convene the group and to feed into this process in order to try to help spark ideas and contributions. Many administrations expressed interest in being part of the correspondence group.

It was noted that the ECC is not alone in developing a strategic plan or strategy document and that consequently ECC should consider such work of other relevant groups in taking this work forward. There was also some initial discussion of topics that might be covered in the new plan and this will be picked up further as part of the discussion that will take place over the coming months.

Following the establishment of a correspondence group over the summer a first meeting of a group looking to develop the strategic plan was expected to be held in September/October. The ECO kindly offered to host this meeting.

# Matters related to European Communications Office

The ECO introduced the Doc. ECC(19)075 on their support to ECC activities. This document provides an overview on the ECO activities in support of ECC. It contains up-to-date information on:

* Developments of relevant ECO tools
* Development of the CEPT portal and ECC website;
* Upcoming CEPT Workshops
* ECO activities supporting ECC in cooperation with other organisations.

This information was noted by the ECC.

# Remaining issues from the CPG, WG FM, WG SE, WG NaN, ECC PT1

**CPG**

The ECC Chairman invited the participants of the meeting to take note of the CPG progress report provided in document ECC(19)053.

Sweden noted that the Project Teams and Task Groups do not have the right to vote. However, it was noted that CPG PTA recently used a method which was perceived by some administrations as a vote to determine how some input documents were treated.

Following the intervention from Sweden, supported by Slovenia, the ECC confirmed that all groups, including Project Teams, should take care to follow the ECC RoP and WMs, namely Article 14.1 RoP.

**WGFM**

The WG FM chairman referred to part 2 of the progress report (doc. ECC(19)045). Inter alia, he referred to ongoing public consultations (section 2.1.1).

The ECC meeting was informed that no comments were provided during the consultation among administrations of revised Annex 2 of ECC Decision (01)03 on EFIS. The ECO will publish the ECC Decision immediately after the ECC meeting.

Furthermore, the ECC meeting was informed about the discussions during the latest WG FM meeting on interference to meteorological radars caused by 5 GHz WAS/RLANs and on GNSS jamming.

WG FM had sent a liaison statement to WG SE to develop possible scenarios with conditions or limitations that may be applied to the amateur service to ensure the future coexistence of the radionavigation-satellite service and the amateur service in the frequency band 1240 - 1300 MHz.

Further information, also on other topics, is provided in the WG FM progress report.

**WGSE**

Detailed issues relative to WGSE are available in SE(19)082 document and summarised in ECC(19)050.

WG SE appointed Dr. Ivica Stevanovic (Ofcom CH, Switzerland) as acting STG Chairman till next WG SE meeting.

Mr. Craig Scott (OFCOM UK) was appointed as SE21 Chairman. Ms. Meta Pavsek Taskov was thanked for the work provided during the last seven years; the meeting expressed its recognition to her with a round of applause.

**WG NaN**

WG NaN Vice Chair Ms. Elizabeth Greenberg (UK) introduced the WG NaN Progress Report contained in document ECC(19)078. A summary of WG NaN’s 18th meeting was provided. Attention was drawn to the adoption of ECC Reports 300 and 301 on different aspects of caller location information and to Draft ECC Recommendation (19)03 on measures for increasing trust in Calling Line Identification and Originating Identification approved for public consultation.

A call for candidates for the following vacant posts in WG NaN and its PTs was made: Vice Chair of WG NaN; Chair of NaN3 Emergency Communications (from September 2019); and Vice Chairs of NaN1 (Future Numbering Issues) and NaN2 (Number Portability, Switching and Trust in Numbering). The ECC Chairman asked administrations to consider applications for the posts.

Sweden questioned the availability of meeting documents in the WG NaN folder on the ECO website. It was confirmed that all documents were available to those who had registered for member access. However, the way meeting documents had been organised into website folders did not align with the approach used by other ECC Groups which had led to reduced transparency. ECO and WG NaN agreed to ensure a consistent approach to meeting document organisation (e.g. same approach used by ECC Plenary, WG FM, WG SE).

**Issues with eCall callback functionality: proposed letter from ECC to the European Commission**

Ms. Greenberg introduced document ECC(19)48, which contained a letter drafted by WG NaN on issues with eCall callback functionality. eCall is the pan European emergency system for vehicles. Tests on the ability for PSAPs to make a call back to the eCall in-vehicle system if the initial call is dropped have failed in many cases. Technical, regulatory and/or commercial causes for the failure have been identified and explained in an annex to the draft letter. It was proposed that the ECC Chairman sends the letter to the European Commission, asking that it works with the relevant parties to find solutions to the identified causes of eCall callback failure and to offer the ECC’s help in progressing this initiative.

The Netherlands asked if more information could be provided on the results of the tests, including the countries where the eCall callback functionality had worked. In response, it was noted that the purpose of the letter was to raise the issue of callback failure with the European Commission and initiate a dialogue. Further detail on the results of the tests could be made available at a later date to inform discussions.

The European Commission confirmed it would be happy to receive the letter. The details would inform its ongoing monitoring of eCall implementation and be of interest to eCall stakeholder groups.

The meeting endorsed the proposal to write to the European Commission on issues with eCall callback functionality and approved the draft letter, with a minor editorial amendment.

The ECC approved the letter from the ECC to the European Commission on eCall **Annex 11 / TEMP 11 Rev2**.

**ECC PT1**

It was noted that PT1 is appealing for hosts and does not currently have any hosts for 2020. It was noted that the meetings will be smaller and shorter next year because all of the work on WRC-19 agenda items has been completed and passed to CPG.

# Correspondence received

## SAT MoU

The Chairman introduced document **ECC(19)044**, a letter from the Chairman of the Sat MoU Management Committee making CEPT administrations aware of the SAT MoU, the measurements provided by Leeheim monitoring station and the problematic financial situation of the SAT MoU which may lead to the possible termination of SAT MoU.

The letter was discussed together with a related input contribution **ECC(19)076 Rev1** from Germany, France, Luxembourg, The Netherlands, Cyprus and CRAF. The importance of the principle of solidarity was highlighted as well as the importance of the measurements Leeheim performs on request of CEPT. CEPT members are encouraged to join the SAT MoU.

ECC agreed to find out:

* what the future satellite monitoring needs are likely to be (by taking into account the rapid evolution of satellite technologies with respect to GSO and NGSO constellations);
* whether Leeheim can provide those respective measurements required to meet future satellite monitoring needs;
* information on how CEPT administrations, which did not sign the MoU, do monitor satellite services.

Based on this information, ECC agreed to review the expected additional material and then take appropriate measures at the next ECC plenary meeting in March 2020.

The ECC tasks WG FM (22 and 44) and WG SE (40) to provide all relevant information in time for the upcoming ECC plenary meeting to the ECO. The ECO is requested to prepare an appropriate input document for that meeting based on the information received

The ECC invited the SAT MoU Management Committee to support the ECC and to provide similar information, including if seen relevant, with regard to the agreements within the SAT MoU (**see Annex 16 / TEMP 16 Rev1**).

## 26 GHz Other Authorisation Regimes

The European Commission introduced document ECC(19)049 which was a letter to the ECC Chairman concerning “authorisation regimes other than individual rights of use” in the 26 GHz band. This followed discussion at the Radio Spectrum Committee in March 2019. The ECC Chairman explained that the ECC would need to agree a response to this letter.

The PT1 Chair introduced document ECC(19)047-A09 which proposed a possible way forward to deal with the issue raised by the letter from the European Commission. Three other input documents on this issue were also introduced: 056-R1 which was a multi-country input from Denmark, Slovenia and the UK; ECC(19)063 from France; and ECC(19)054 from GSA.

There was considerable discussion of this issue, including what was meant by “authorisation regimes other than individual rights of use”. Some administrations noted that at this stage they did not wish to rule out any options in relation to possible authorisation regimes for 26 GHz and were currently considering such alternative authorisation regimes at a national level. It was noted however that any such consideration of alternative authorisation regimes would be based on the current technical conditions and framework.

Following discussion, the ECC concluded that there was no need at this stage to investigate any changes to the technical conditions in ECC Decision (18)06. The ECC noted that it did not intend to initiate any work to revisit or reconsider these technical conditions.

The ECC did however agree to initiate work in ECC PT1 to develop a new ECC Report / Technical toolkit to assist administrations who are considering “authorisation regimes other than individual rights of use”. The purpose of this work will be to provide guidance to administrations, in particular in relation to ensuring co-existence with radio services, but without making any changes to the technical conditions or framework. The expected date for publication of this deliverable is June 2020. It is understood that this may look at different scenarios from the traditional method of authorising MFCN (i.e. national licences) and this could include study of local licences, (e.g. as envisaged to be used for verticals at particular locations).

The ECC approved a letter from the ECC to the European Commission responding to the letter from the European Commission on authorisation regimes other than individual rights of use in the 26 GHz band **Annex 9 / TEMP 9 Rev1**.

The ECC approved a new work item in the 26 GHz band to address spectrum use under authorisation regimes other than individual rights of use **Annex 8 / TEMP 8 Rev1.**

**L Band MSS**

ECC noted the receipt of the liaison statement from the International Chamber of Shipping regarding L band MSS receiver blocking in ECC(19)INFO 2.

# Contacts and co-operation with outside bodies

It was noted that an update to the MoU between CEPT and RCC was recently signed. The ECC Chairman highlighted that there is global interest in the work of CEPT / ECC and that it is important for CEPT to engage broadly with different bodies. The ECC Chairman will put more thought on how to take this forward in the coming months.

# Schedule of meetings

The following meetings of the ECC are scheduled:

|  |  |
| --- | --- |
| Date: | Country: |
| 03 - 06 March 2020 | Tallinn, Estonia |
| 30 June – 3 July 2020 | [TBD] |
| 17 – 20 November 2020 | Berlin, Germany |

It was noted that while a host was still needed for 30 June – 3 July 2020 discussions were underway with potential hosts. A calendar of meetings for ECC and its subordinate groups can be found in [ECC(19)065-A03](https://cept.org/Documents/ecc/52373/ecc-19-065-a03_calendar-2019-2020-for-the-ecc-groups) (Calendar 2019-2020 for the ECC groups).

# Date and Place of next meetings

The next ECC meeting scheduled is:

|  |  |
| --- | --- |
| Date: | Country: |
| 03 - 06 March 2020 | Tallinn, Estonia |

# Any other business

None.

# Approval of the minutes of the 51st ECC meeting

The ECC approved the minutes of the 51st ECC meeting as given in Document **ECC(19)081**

# Closure of the meeting

The Chairman thanked the ECC participants for their contributions and willingness to compromise and their support during the meeting. With that he wished all participants a safe trip home.

The Chairman then closed the 51st ECC meeting.