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| 43rd ECC Meeting |  |
| Prague, 15 – 18 November 2016 |   |
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The 43rd meeting of the Electronic Communications Committee (ECC) was held in the city of Prague, Czech Republic, at the kind invitation of the Czech Telecommunication Office (CTU).

# Opening of the meeting

The ECC Chairman, Mr Eric Fournier (F), opened the meeting and welcomed the participants.

The Chairman gave the floor to Mr. Jaromir Novak, Chairman of the Board of CTU, who welcomed the delegates and observers to Prague.

Mr. Novak recalled what has been done by ECC for wireless broadband communications. He pointed out that the implementation of 4G in the Czech Republic has been remarkable- the fastest in the Czech history- three 4G networks reached 90% penetration of citizens approximately within one year.

He stressed other challenges- to respond to the increasing demand for spectrum, to further improve the wireless environment and open it for verticals- by implementing 5G. However such operations will be even more complicated than the implementation of 4G.

Mr Novak believes that ECC will play again the main role and contribute to reach that target.

He wished for fruitful discussions and a pleasant stay in Prague.

Mr Fournier thanked Mr. Novak for his kind words and for the invitation in Prague.

The meeting was attended by 70 delegates representing 33 Administrations, the European Commission, the Office and 9 observers. The list of participants can be found in Annex 02. The list of output documents is given in Annex 01

# Adoption of the Agenda, Schedule of work

The Chairman informed the meeting about the last update of the draft agenda. The meeting adopted the agenda as given in Annex 03.

# Appointment of Chairmen

## Appointment of ECC WG NaN Chairman

Mr. Johannes Vallesverd being the only candidate for the ECC WG NaN chairmanship, he was elected by acclamation by the ECC plenary for his second term as ECC WG NaN chairman.

## Call for nomination for WG FM Chairman

Regarding future chairmanship, it is noted that Mr. Thomas Weilacher, chairman of WG FM, is coming to the end of his first term in February 2017. A call for nomination will be sent to the Administrations shortly after this meeting, in order to proceed to an election at the next ECC meeting in February 2017. Mr. Weilacher has signalled his intent to run for a second term.

## Call for ECC Vice Chairman

Regarding Vice chairmanship, it is noted that Mr. Sergey Pastukh, vice chairman of ECC, is coming to the end of his first term at the end of this year. A call for nomination will be sent to the Administrations shortly after this meeting, in order to proceed to an election at the next ECC meeting in February 2017. Mr. Pastukh has signalled his intent to run for a second 3 year term.

It is also noted that Mr. Jaime Afonso, vice chairman of ECC, has finalized his first term in March 2016 and that ECC has not proceed for a call for nomination at that time. A discussion took place during the meeting in order to clarify this exceptional situation.

It has been decided that since then and until the next ECC meeting, Mr. Afonso has been considered as acting Vice chairman. A call for nomination will be sent to the Administrations shortly after this meeting, in order to proceed to an election at the next ECC meeting in February 2017. Mr. Afonso has signalled his intent to run for a second term, with the understanding that, for him, the second term would be finished in February 2019.

The ECO has provided to the meeting a table containing an overview of the chairmanships within ECC and related information about timing of their respective position. This table is contained in **Annex 04/Temp 02** and will be updated by ECO at each ECC meeting.

## Rules for ECC PT1

ECC confirmed that the same rule as for ECC working group should apply for the project team of ECC in terms of duration of term for chairman and vice chairman. Consequently ECC PT1 has been asked to follow the RoP in launching a call for nomination applicable to his second vice chairman position, noting that the one for his first vice chairman position had already been launched.

It was also emphasized that the “principles” in article 8 of the RoP should also normally apply to the project teams of the working group. However, WG FM and WG SE chairmen stressed that certain flexibility is needed for the rules applying for the Project Teams within a Working Group taking into account the limited availability of chairmen. It was also highlighted that PT of the Plenary (i.e. PT1) and PTs within a working Group do not have the same level of responsibility.

Some aspects of the RoP (e.g. the title of Article 9) may need to be clarified. As a result, the Steering Group will study the possible need to review the RoP, with the aim to make it available 2 month prior to the next ECC plenary meeting.

# Reports on ECC and other activities

##  Minutes of the 42nd Steering Group meeting

The Chairman presented the minutes of the 42nd Steering Group meeting (document ECC(16)084 Rev2) drawing the attention of the meeting on several issues, including:

* The need to clarify in ECC Dec(06)07 the reasons why MCA on board terminals are not expected to register to ground GSM and LTE stations
* The complexity of the technical studies in the 400 MHz band which would require a categorisation (NB analogue, NB digital, wideband digital, BB digital).
* The need to streamline the regulations applicable to the 60 GHz band
* The need for the EC mandate on 5G to focus, in terms of ECC workload, on well-defined tasks

Some other elements discussed within the Steering Group are addressed in the relevant sections.

## Minutes of the EC-ECC meeting (October 2016)

The ECC Chairman introduced the document ECC(16)085 Rev1 containing the minutes of the 6 October 2016 consultation meeting between EC and ECC and highlighted the main areas of interest, most of them being covered within the Agenda of this ECC meeting.

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

The ECO introduced Document ECC(16)100, the ECO’s regular bulletin on developments outside the ECC.  Particular attention was drawn to the following issues:

• update on ongoing activities in the Asia Pacific including the foreseen decision to deploy the APT Frequency Information System (AFIS),

• order from the FCC about the need for Iridium to protect stations in the radio astronomy service (RAS) operating in the 1 610.6-1 613.8 MHz band and,

• overview on spectrum strategy for 5G in South Korea, Japan, and China.

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

# Draft ECC Decisions

## Final Approval of amended ECC Decision (06)07 on theharmonised use of airborne GSM and LTE systems in the frequency bands 1 710-1 785 MHz and 1 805-1 880 MHz, and airborne UMTS systems in the frequency bands 1 920-1 980 MHz and 2 110-2 170 MHz

The ECC PT1 Chairman presented the output of the most recent ECC PT1 meeting which had completed the resolution of the public consultation on the amendments to ECC Decision (06)07. ECC PT1 had considered this draft revision of ECC Decision (06)07 alongside its work on draft CEPT Report 63.

ECC PT1 concluded that NCUs are only required for the 900 MHz and 2 100 MHz frequency bands (unless there is sufficient fuselage attenuation). The ECC PT1 technical analysis indicates that intra-network interference will prevent onboard mobile terminals from attempting to register with GSM and LTE mobile networks on the ground. However, there is a risk that an onboard mobile terminal will attempt to register with UMTS networks on the ground, so there is a need for the NCU to operate in frequency bands where UMTS might be deployed, i.e. 925-960 MHz and 2 110-2 170 MHz (unless there is sufficient fuselage attenuation). Existing NCUs may continue to operate in other MFCN frequency bands but operation in the 450 MHz, 800 MHz, 1 800 MHz and 2.6 GHz bands is no longer required.

The ECC PT1 Chairman also presented document ECC(16)093 which proposed some additional explanatory text for the draft amended Decision to describe why GSM and LTE networks do not require NCU protection, following discussions within the ECC SG. In addition, document ECC(16)093 raises the possible need of indicating in Decision (06)07 the applicable e.i.r.p. limits for legacy NCUs that continue to operate in other MFCN frequency bands.

ECC agreed that the additional text in ECC(16)093 should be included in the amended Decision (06)07. ECC further agreed to the addition of a table in the Decision that sets out the e.i.r.p. limits for legacy NCUs operating in the 450 MHz, 800 MHz, 1 800 MHz or 2.6 GHz bands.

The ECC finally approved the ECC Decision (06)07 on the harmonised use of airborne GSM and LTE systems in the frequency bands 1 710-1 785 MHz and 1 805-1 880 MHz, and airborne UMTS systems in the frequency bands 1 920-1 980 MHz and 2 110-2 170 MHz (**Annex 05** / **Temp 03 Rev1**) and tasked the Office to publish it.

The meeting decided to reset the implementation status on the ECC website.

23 administrations indicated to implement this amended ECC Decision.

*Statement from the Russian Federation:*

*The Russian Federation are going only partly implement this ECC Decision as the Russian Federation considers redundant the requirement to install NCU on board of aircraft for protection of UMTS networks.*

Following a clarification on the possible need to revise the relevant Harmonise Standard concerning MCA, it was decided to send a LS to ETSI. Therefore, ETSI ERM and ETSI MSG are invited to take account of the ECC studies in its development of EN 302 480, in particular the conclusion that NCU operation is only required in 925-960 MHz and 2110-2170 MHz

The liaison statement was adopted as **Annex 20** / **Temp 19.**

## **Final Approval** of amended ECC Decision (12)01 on theexemption from individual licensing and free circulation and use of terrestrial and satellite mobile terminals operating under the control of networks

The ECC PT1 Chairman presented the output of the most recent ECC PT1 meeting which had completed the resolution of the public consultation on the amendments to ECC Decision (12)01. This Decision had also been considered in WG FM.

ECC considered the issue that had been highlighted by WG FM of the text that states that some CEPT administrations may require that satellite network operators obtain frequency authorisation due to national regulatory requirements. It was agreed that this text, with some adjustments, should appear as a footnote to *decides* 1 and at the end of the Introduction section, instead of the section on the “Requirement for an ECC Decision”.

The ECC finally approved the amended ECC Decision (12)01 on the exemption from individual licensing and free circulation and use of terrestrial and satellite mobile terminals operating under the control of networks (**Annex 07 /** **Temp 05**) and tasked the Office to publish it.

The meeting decided to reset the implementation status on the ECC website.

29 administrations indicated to implement this amended ECC Decision.

## Final approval of ECC Decision (16)03 on the withdrawal of ERC/DEC/(99)17 (on the Universal Shipborne Automatic Identification System (AIS) channels in the maritime VHF band

ECC considered the following input documents:

* ECC(16)090, Outcome of the public consultation; (ECO;)
* ECC(16)094 - Section 1.2 (WG FM progress report);
* ECC(16)094 - Annex 1, draft ECC Decision (16)03 (WG FM).

WGFM#86 had considered the result of the public consultation and had endorsed the draft ECC Decision (16)03 for submission to ECC for final approval for publication.

The ECC finally approved the ECC Decision (16)03 on ‘The withdrawal of ERC Decision (99)17 (on the Universal Shipborne Automatic Identification System (AIS) channels in the maritime VHF band)’ (**Annex 08 /** **Temp 06**) and tasked the Office to publish it.

## Approval for public consultation of draft amended ECC Decision (05)09 on the free circulation and use of Earth Stations on board Vessels operating in fixed-satellite service networks in the frequency bands 5 925 – 6 425 MHz (Earth-to-space) and 3 700 – 4 200 MHz

ECC considered the following input documents:

* ECC(16)094 - Section 1.3 (WG FM progress report);
* ECC(16)094 - Annex 2, draft amended ECC Decision (05)09 (WG FM).

WGFM#86 had adopted the draft amendment of ECC Decision (05)09 to be sent to ECC for approval for public consultation. The ECC had not endorsed the amendment of this ECC Decision so far (see list of review of ECC/ERC/ECTRA Decisions, submitted to the ECC#42 meeting in June 2016, doc. ECC(16)056 - Annex 10). Therefore ECC#43 was invited to approve the amended version for public consultation.

The ECC meeting slightly amended Decides item 5 in the draft ECC Decision, to take into account Resolution 902 (WRC-03) and footnote 5.457A as modified by WRC-15, as follows: “that with regard to ESV operations in the band 5 925-6 425 MHz, within the minimal distance of 300 km (antenna diameter ≥ 2.4 m) or 330 km (1.2 m ≤ antenna diameter < 2.4 m) from the low-water mark as officially recognised by the coastal State or within the territorial seas or internal waters, …”.

The WG FM chairman encouraged the CEPT administrations to provide the relevant information to the ECO as requested by this ECC Decision.

The ECC approved for public consultation the amended ECC/DEC/(05)09 on ‘The free circulation and use of earth stations on board vessels operating in fixed-satellite service networks in the frequency bands 5 925 – 6 425 MHz (Earth-to-space) and 3 700 – 4 200 MHz (space-to-Earth)’ (**Annex 09 /** **Temp 07**)

## Approval for public consultation of draft amended ECC Decision (06)10 on transitional arrangements for the Fixed Service and tactical radio relay systems in the bands 1 980-2 010 MHz and 2 170-2 200 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

ECC considered the following input documents:

* ECC(16)094 - Section 1.4 (WG FM progress report);
* ECC(16)094 - Annex 3, draft amended ECC Decision (06)10 (WG FM).

WGFM/FM44 had analysed whether the ECC Decision (06)10 should be withdrawn or revised and concluded that it should be revised and updated to provide a better picture of the countries where fixed service stations are still deployed. It was also noted that the ECC Decision is not designating frequencies for an application or service, and that the real extent of remaining FS links in the band is unknown.

WGFM#86 had adopted the draft amended ECC/DEC/(06)10 to be sent to ECC for approval for public consultation.

The ECC had not endorsed the amendment of this ECC Decision so far (see list of review of ECC/ERC/ECTRA Decisions, submitted to the ECC#42 meeting in June 2016, doc. ECC(16)056 - Annex 10). Therefore ECC was invited to approve the amended version for public consultation.

The ECC approved for public consultation the amended ECC/DEC/(06)10 on ‘transitional arrangements for the Fixed Service and tactical radio relay systems in the bands 1 980-2 010 MHz and 2 170-2 200 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’ (**Annex 10 /** **Temp 08**)

## **Final approval** of corrected ECC Decision (07)01 on specific Material Sensing devices using Ultra-Wideband (UWB) technology

ECC considered the following input documents:

* ECC(16)094 - Section 1.5 (WG FM progress report);
* ECC(16)094 - Annex 4, draft corrected ECC Decision (07)01 (WG FM).

WGFM#86 had adopted a correction of the ECC Decision (07)01 for submission to the ECC for approval for publication. The references to the harmonised European standards for mitigation techniques and related measurements which are used several times in this ECC Decision were updated. This is also in line with CEPT Report 59. A public consultation was considered by WG FM not to be needed.

The need for one additional correction was identified after the WGFM#86 meeting, below table 3 of the ECC Decision (reference to EN 302 065-4 would be correct), and was also included in the version as provided in Annex 4 to the WG FM progress report.

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The ECC finally approved the corrected ECC Decision (07)01 on ‘Specific Material Sensing Devices using Ultra-Wideband (UWB) technology’ (**Annex 11 /** **Temp 09**) and tasked the Office to publish it.

There is no impact on the implementation status on the ECC website.

## **Final approval** of corrected ECC Decision (16)01 on the harmonised frequency band 76-77 GHz, technical characteristics, exemption from individual licensing and free carriage and use of obstacle detection radars for rotorcraft use

ECC considered the following input documents:

* ECC(16)094 - Section 1.6 (WG FM progress report);
* ECC(16)094 - Annex 5, draft corrected ECC Decision (16)01 (WG FM).

WGFM#86 had adopted a correction of the ECC Decision (16)01 for submission to the ECC for approval for publication. A new note was added to the introduction section in the Decision to explicitly clarify that the Decision cannot be applied for unmanned aircrafts. This is in line with CEPT Report 59 and the assumptions made with regard to the market and usage density of the application in ECC Report 222. A public consultation was considered by WG FM not to be needed.

The ECC meeting slightly amended the proposed new Note and considered that in this case it could be considered as an editorial correction without the need for a public consultation, but emphasised that this should not be considered as a precedent for other ECC Decisions.

The ECC finally approved the corrected ECC Decision (16)01 on ‘The harmonised frequency band 76-77 GHz, technical characteristics, exemption from individual licensing and free carriage and use of obstacle detection radars for rotorcraft use’ (**Annex 12 /** **Temp 10**) and tasked the Office to publish it.

There is no impact on the implementation status on the ECC website.

# CEPT Reports in Response to EC Mandates

## **Final Approval** of draft CEPT Report 63 to the European Commission in response to the Mandate “to undertake technical studies regarding the possibility of making the usage of the network control unit (NCU) optional onboard MCA enabled aircraft”

The ECC PT1 Chairman presented the output of the most recent ECC PT1 meeting which had completed the resolution of the public consultation on draft CEPT Report 63. ECC PT1 had considered this Report alongside its work on the draft revision of ECC Decision (06)07.

ECC PT1 concluded that NCUs are only required for the 900 MHz and 2 100 MHz frequency bands (unless there is sufficient fuselage attenuation). The ECC PT1 technical analysis indicates that intra-network interference will prevent onboard mobile terminals from attempting to register with GSM and LTE mobile networks on the ground. However, there is a risk that an onboard mobile terminal will attempt to register with UMTS networks on the ground, so there is a need for the NCU to operate in frequency bands where UMTS might be deployed, i.e. 925-960 MHz and 2 110-2 170 MHz, unless there is sufficient fuselage attenuation. Existing NCUs may continue to operate in other MFCN frequency bands but operation in the 450 MHz, 800 MHz, 1 800 MHz and 2.6 GHz bands is no longer required.

It was noted that in the MCL analysis, the worst case distances for bands below 1 GHz were different from those in bands above 1 GHz. This is due to the different values for the worst case elevation angles, which are a consequence of different antenna radiation patterns. Additional clarification was provided in the MCL section to explain the reason for the different separation distances.

The ECC approved the final CEPT Report 63 to the European Commission in response to EC mandate on MCA **(Annex 06/ Temp 04)** and tasked the Office to publish it

## **Final Approval** of draft CEPT Report 64 (Draft Report B from CEPT) to the European Commission in response to the Mandate to study and identify harmonised compatibility and sharing conditions for Wireless Access Systems including Radio Local Area Networks in the bands 5 350-5 470 MHz and 5 725-5 925 MHz ('WAS/RLAN extension bands') for the provision of wireless broadband services.

ECC considered the following input documents:

* ECC(16)089, Outcome of public consultation;
* ECC(16)094 - Section 1.7 (WG FM progress report);
* ECC(16)094 - Annex 6, draft CEPT Report 64 (WG FM).

WGFM#86 had adopted draft CEPT Report 64 (Draft Report B from CEPT) to go forward to the ECC meeting for approval for publication and submission to the European Commission.

The meeting agreed on amendments in the paragraph related to the “General conclusions” in the “Executive Summary” (Section 0) and in the section “Results and Conclusions” (Section 6) in the draft CEPT Report.

The ECC approved the final CEPT Report 64 (Draft Report B from CEPT) to the European Commission in response to the Mandate ‘To study and identify harmonised compatibility and sharing conditions for Wireless Access Systems including Radio Local Area Networks in the bands 5 350-5 470 MHz and 5 725-5 925 MHz ('WAS/RLAN extension bands') for the provision of wireless broadband services’ (**Annex 13 /** **Temp 11**) and tasked the Office to publish it.

## Approval for public consultation of the draftAddendum to the CEPT Report 59 in response to the EC Permanent Mandate on the ”Annual update of the technical annex of the Commission Decision on the technical harmonisation of radio spectrum for use by short range devices” Possibilities for a harmonisation approach for the bands 870-876 MHz and 915-921 MHz also taking into account new opportunities in the band 862-868 MHz

ECC considered the following input documents:

* ECC(16)095, section 2.1 on Draft ECC Report 261 on “Short Range Devices in the frequency range 862-870 MHz” (WG SE);
* ECC(16)095, section 2.2 on Draft ECC Report 246 on “Wideband and Higher DC Short Range Devices in 870-875.8 MHz and 915.2-920.8 MHz (companion to ECC Report 200)” (WG SE);
* ECC(16)094 - Annex 07 on Draft Addendum to CEPT Report 59 (WG FM);
* ECC(16)094 - Annex 08 on Draft ECC Letter to EC on Addendum to CEPT Report 64 (WG FM);
* ECC(16)094 - Annex 11 on LS to ETSI on Request for a new SRdoc on LPWAN (WG FM).

WG SE had adopted the draft ECC Report 246 for SRDs in the bands 870-876/915-921 MHz and draft ECC Report 261 for SRDs in 862-870 MHz for public consultation and had informed WG FM about the findings. The main objectives of these studies are the review of the applicable regulatory SRD requirements with the view to use higher power (up to 500 mW) and/or larger duty cycle (up to 10%). In the frequency band 862-868 MHz, it is differentiated between typical SRDs, Wide Area Network (WAN), 500 mW Narrowband Networked (NBN) SRDs and WAN with terminals using 25 mW and sensitive receivers (identified as LPWAN in the Report).

WG FM had requested WG SE / SE24 to perform additional studies on the possible introduction of high power (500 mW) NBN SRD, including Network Relay Points (NRPs), operating in the RFID interrogator channels within the band 915-921 MHz. The results will be integrated in the draft Addendum before its final approval expected during the ECC#44 meeting in March 2017.

WG FM, at its 86th meeting in October 2016, had agreed on the ‘draft Addendum to the CEPT Report 59’. WG FM proposed to approve it for public consultation and to send it to the European Commission.

The WG FM chairman highlighted that especially the SRD/MG had to work under enormous time pressure for preparing the draft Addendum and thanked the SRD/MG for its work. The WG SE results which had been available until the WG FM meeting in October were taken into account.

The WG FM chairman introduced the draft Addendum in detail.

The EC Councillor thanked the ECC for the progress made on the addendum within the challenging timescale. He recalled the importance of world-wide compatibility for IoT devices, in order to facilitate consumer choice, as well as, the importance of protecting primary services, which is already an integral part of the SRD decision (non-protection and non-interference clause).   He voiced reservations on including a reference to the use of individual authorisations in a footnote to the table in the EC decision (Annex 3 of the CEPT report 59), since this could go beyond the legal scope of Implementing decisions under the Radio Spectrum Decision. These topics will be addressed with the Member States in the RSC.

The UK informed the meeting that proposals from the industry are expected during the public consultation.

The following discussions were mainly related to the table in Annex 3 of the draft Addendum and to the related footnotes.

The footnotes in Annex 3 were amended; this also led to some alignments in the table itself. The footnotes xii and xiii were merged into one, now new footnote xii.

It was clarified that individual authorisations are related to the network (network access points, base stations, relay points), including all components. Hence this should not be understood as a requirement for individual licensing of terminal nodes which would be anyway under the control of the network.

After the ECC meeting had agreed on Annex 3, the main body of the draft Addendum was editorially aligned with the amendments in this Annex.

Austria, Mr Franz Ziegelwanger, asked about the procedure in case of military usage in the relevant part of the spectrum.

The EC Counsellor clarified that Article 1(4) of the RSD applies for military services and that a regulatory solution could be sought in the Radio Spectrum Committee, which would set the conditions for limited exceptions to the application of the decision, where necessary, taking into account Recital 9 of the Radio Spectrum Decision.

The meeting also agreed that WG FM should verify whether definitions are provided for all new terms (network nodes, terminal nodes,…). Missing definitions should be added in the draft Addendum.

The WG FM chairman informed the meeting about the liaison statement from WG FM to ETSI on the invitation to create a Systems Reference Document (SRdoc) on Low Power Wide Area Network (LP-WAN). In the LS, which had been copied to WG SE, it had been confirmed that it is not intended to restrict or remove already existing opportunities for SRDs in the range 863-870 MHz.

The ECC approved the “draft Addendum to the CEPT Report 59 in response to the EC Permanent Mandate on the ‘Annual update of the technical annex of the Commission Decision on the technical harmonisation of radio spectrum for use by short range devices - Possibilities for a harmonisation approach for the bands 870-876 MHz and 915-921 MHz also taking into account new opportunities in the band 862-868 MHz’ in response to the Mandate” subject to public consultation and for submission to the EC (**Annex 14/ Temp 12 Rev1**).

The ECC also agreed on a Cover Letter (**Annex 15/** **Temp 13**).

**“*Position/ Statement of the administrations of Belgium, Germany, The Netherlands, Austria, Italy, Liechtenstein, Luxembourg, Poland and Switzerland***

*The aforementioned administrations are of the opinion that is it not appropriate to use a harmonization instrument like the EC decision on SRD’s for SRD devices which have not reached a sufficient level of harmonization. If more flexibility is needed, then another tool for harmonization could be more appropriate. These administrations consider that this wrong regulatory approach sets a precedent for the future.*

*Furthermore, this solution results in a number of issues and potentially unintended consequences:*

*- instead of a  full harmonization, a rather fragmented solution is achieved which is contrary to the aim of the EC decision on SRD’s;*

*- so far there is no easy way for users and industry to get the information how member states implement the flexible provisions especially considering that ERC/REC 70-03 and the Commission Decision are not fully aligned. This may lead to uncertainty on the market;*

*-duty cycle conditions in the order of 0.01% basically mean that the systems are incompatible;*

*- in some countries individual licensing limited for professional users is required for the protection of primary services which may i.a. result in geographical restrictions within a country and thereby in additional uncertainty on the spectrum availability;*

*- the flexible approach implies that there cannot be Class 1 equipment for these bands;*

*- new frequency bands, relating to SRD's applications, cannot be included if not already harmonized*.”

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

## Final approval of draft ECC Report 254 on "Operational guidelines to support the implementation of the current ECC framework in the 3.6-3.8 GHz range"

The ECC PT1 Chairman presented the output of the most recent ECC PT1 meeting which had completed the resolution of the public consultation on draft ECC Report 254.

The Report suggests two approaches to enable administrations to protect the incumbents in the frequency band 3600-3800 MHz while allowing its use by MFCNs as new entrants. Based on national circumstances an administration might apply any combination of these approaches to set up its national sharing framework.

The ECC finally approved the ECC Report 254 as submitted by ECC PT1 **(Annex 16/ Temp 15)** and tasked the Office to publish it

## 5G (workshop on 5G and planned Mandate)

ECC considered in document ECC(16)104 submitted by ECO an overview from the recent CEPT workshop on 5G held in Mainz, 2-4 November 2016.

This input from the ECO was appreciated by the ECC meeting as it was found very useful for a starting point of the discussions. In particular, ECC discussed in details and amended the draft CEPT Roadmap for 5G prepared after the workshop. ECC also identified, for each of the actions of the Roadmap, the related ECC activities or the areas for future consideration as follows.

* **Spectrum harmonization for 5G**:

ECC agreed that the main focus should be on the 3.4-3.8 GHz (with the current PT1 work item) and 26 GHz bands.

In this regard, based on a proposal from the United Kingdom (document ECC(16)107), ECC agreed a new work item (supported by 23 CEPT administrations) on the development of an harmonisation decision setting the conditions for the introduction of 5G in the 26 GHz band. This work will use the results of sharing and compatibility studies with other services carried out in preparation for WRC-19 AI 1.13.

Concerning the consideration for 5G of bands already harmonized for MFCNs (700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2.1 GHz, 2.3 GHz and 2.6 GHz), ECC agreed that the topic should be addressed in ECC PT1 as part of the review process of the corresponding ECC Decisions.

In addition, it has to be noted that ECC approved two new work items proposed by ECC-PT1 on the development of a decision for channelling arrangement for MFCN (SDL band plan) and least restrictive technical conditions in the bands 1 427-1 452 and 1 492-1 518 MHz (see section 7.5).

* **WRC-19 (IMT>24 GHz):**

ECC endorsed, with some clarifications, the proposed objectives related to WRC-19, in particular the priorities for bands to be studied (26, 32 and 42 GHz) and the intention to harmonise the 26 GHz band for Europe for 5G before WRC-19.

Concerning the 28 GHz band, ECC discussed the ways to clearly signal its intention to not identify the band for 5G. It was agreed that the emphasis should be put on the European harmonization of the band 27.5-29.5 GHz for broadband satellite and on the CEPT support for the worldwide use of the band for ESOMPs/ESIM (WRC-19 AI 1.5). It was reminded that this message was included in the article on ESOMPs within the October 2016 edition of the ECC newsletter and that it will be restated in the Special Edition on 5G planned to be published end November 2016. It was also identified that the related actions would be further addressed at the next CPG meeting.

* **Verticals:**

Whilst recognizing the importance of addressing the requirements of verticals within the context of 5G, ECC discussed its possible role in this area and agreed to amend the related objectives of the Roadmap. It was in particular highlighted that the definition and identification of use cases for verticals should be carried out within relevant industry groups. For the automotive sector, the meeting was informed about the activities within 5GAA (<http://www.5gaa.org/> ). ETSI was invited to consider the possible development of System Reference documents addressing verticals’ requirements, in particular in relation to spectrum redundancy for mission critical applications.

The requests from the ‘verticals’ are mainly relevant for the regulations under the responsibility of WG FM. The WG FM chairman emphasised that not all relevant regulations (ECC Decisions and ECC Recommendations) could be verified if they are ‘5G compatible’ within a short term, but this will be taken into account during future reviews (as part of the established review process). E.g. WG FM is currently considering the regulations related to the 400 MHz and 60 GHz bands

ECC PT1 and WG FM were invited to consider spectrum regulations applicable to verticals to assess whether these are “5G compatible” during future reviews.

WG FM was also tasked to use the opportunity of its ongoing work on the 400 MHz band (within FM 54) to investigate the possibility for verticals to share common platforms.

* **Other spectrum challenges:**

ECC discussed and slightly amended the set of additional challenges identified within the Roadmap, such as satellite solutions for 5G, new sharing opportunities and challenges (e.g. MIMO), considerations on authorisation regimes, infrastructure and backhaul requirements for 5G.

As a result, ECC agreed the CEPT roadmap for 5G as contained in **Annex 17/Temp 16 Rev1**. It will also be made available on a page dedicated to 5G on the ECC website (<http://cept.org/ecc/topics/spectrum-for-wireless-broadband-5g/>).

The meeting agreed that the CEPT roadmap will be reviewed at each ECC Plenary meeting with an assessment of the related activities.

## 2.3-2.4 GHz

In response to work item FM\_33 on LSA implementation and testing, ECO maintains a dedicated page on the ECC website: <http://www.cept.org/ecc/topics/lsa-implementation>

Since the previous meeting, the section related to the relevant activities has been amended with updated information from France and Italy. Administrations are invited to provide relevant information on LSA trials to the ECO (bruno.espinosa@eco.cept.org).

The final study report from the Joint Research Centre (JRC) on the impact of LTE in the 2.3-2.4 GHz band on Wi-Fi devices operating in the adjacent 2.4 GHz band (the so-called Wi-Fi band) is available on the following link:

<https://circabc.europa.eu/w/browse/5df4d4a1-6fe0-4d37-b40c-70d4fc649ffa>

Analysis of the JRC study within WG SE showed that the results are consistent with the previous studies performed by WG SE (ECC Report 172) and the follow-up activities during the development of ECC Decision(14)02.

## M2M/IoT

The ECC PT1 Chairman provided an update on progress on the work to look at the suitability of the current ECC framework for MFCN bands for the future usage of LTE-based M2M and Narrowband M2M.

ECC PT1 chairman explained that the analysis for LTE MTC, EC-GSM-IOT and NB-IOT in-band operation is completed and is included in the latest version of the working document. However, the outstanding issue of regulatory regime for NB-IOT deployment in guard-bands and standalone still remains to be addressed. ECC PT1 is seeking information from ETSI on which harmonised standard Standalone NB-IOT would fall in, noting that NB-IOT is a narrowband system specified in 3GPP TS 36.101 and TS 36.104 but the technical conditions are expected to be in line with the conditions applicable to GSM. Any implications on ECC Decision (06)13, which refers separately to the LTE harmonised standards (derived from 3GPP 36-series specifications) and the GSM harmonised standards, need to be analysed.

ECC agreed to the amendment to the work item proposed by Portugal in ECC(16)105 and extended the deadline for completion to June 2017.

The WG FM chairman informed the meeting that the project teams SRD/MG, FM44 and FM54 had been invited by WG FM to review current ECC deliverables under their purview, to identify any possible limitations on M2M usage. So far no project team has identified any need for an immediate amendment of a deliverable because of M2M requirements. This issue will also be considered in the future in relation to the review of ECC Decisions and Recommendations.

WGFM#86 had agreed to open a WG FM correspondence group and a related email-reflector on M2M via satellite and airplane (below 1 GHz), led by France (see ECC(16)094 - Section 2.7).

The ECC meeting was also informed that a presentation at the ITU-R Workshop on IoT on 22 November 2016 will be provided on behalf of CEPT by the WG FM vice chairman Mr Stephen Talbot (UK).

## L Band 1 427-1 518 MHz

The ECC PT1 Chairman presented a proposal for two ECC PT1 work items in response to the request from the 42nd ECC meeting. These had been developed after considering the responses to a questionnaire on timing for the harmonisation of the 1 427-1 452 MHz and 1 492-1 518 MHz frequency bands and their availability for MFCN. The scope of the work items is:

1. Development of an ECC Decision on channelling arrangement and harmonised technical conditions for MFCN in the frequency bands 1 427-1 452 MHz and 1 492-1 518 MHz
2. Technical study of least restrictive technical conditions for the use of MFCN in the frequency bands 1 427-1 452 MHz and 1 492-1 518 MHz

The proposal from Portugal (ECC(16)106) was considered and as a result the first work item was modified to reflect that the flexibility needs to take into account the national availability and timescale. The work items were approved with the support of 14 CEPT administrations.

## IMT MSS 1 518 MHz – draft ECC report for PC

The ECC PT1 Chairman presented a draft ECC Report on adjacent band compatibility between IMT and MSS at 1 518 MHz, which was proposed for public consultation. The draft Report describes the studies on adjacent band compatibility at frequency separations of 1 MHz, 3 MHz or 6 MHz between IMT and MSS and it examines a number of methods for mitigation of interference.

The ECC PT1 Chairman also provided a copy of a liaison from ECC PT1 to ETSI that set out the draft Report’s conclusions on the minimum in-band blocking characteristic for land mobile earth stations receivers and the LTE base station unwanted emission limits to ensure the coexistence between these systems.

ECC decided that these conclusions should be highlighted in the draft ECC Report. The relevant text from the liaison was inserted into the Executive Summary and Conclusions sections of the draft ECC Report.

The ECC approved for public consultation the draft ECC Report on Adjacent band compatibility studies between IMT operating in the frequency band 1 492-1 518 MHz and the MSS operating in the frequency band 1 518-1 525 MHz **(Annex 18 / Temp 17 Rev1)**

## BB PPDR (outcome of ECC/ETSI Workshop)

A summary of the joint ETSI-CEPT/ECC Workshop on PPDR, which took place on 29 September 2016 at the ETSI premises, was presented at the WGFM#86 meeting. Highlights from the presentations held at the workshop during the 4 sessions, as well as issues raised and some discussion points were presented. This was followed by a description of the general conclusions of the workshop and an outlook on the next steps and follow up activities (session 5 of the workshop). An article about the PPDR workshop was published in the ECC Newsletter end of October 2016 (<http://apps.ero.dk/eccnews/oct-2016/public_protection_and_disaster_relief.html>).

The final presentation at the PPDR workshop (closing remarks) is provided in **Infodoc. 014**.

ECC#42, in June 2016, had sent a liaison statement to ETSI TC ERM and to 3GPP on BB-PPDR in the 700 MHz and 400 MHz ranges. The LS informs about the publication of ECC/DEC/(16)02 on ‘Harmonised technical conditions and frequency bands for the implementation of Broadband Public Protection and Disaster Relief (BB-PPDR) systems’. Furthermore, the LS kindly requests ETSI and 3GPP to consider the inclusion of the technical requirements as in ECC/DEC/(16)02 in ETSI standards and 3 GPP Specifications. So far no official response on that has been received by CEPT/ECC.

The WG FM chairman informed the ECC meeting that WGFM#86 had finally approved the ECC Recommendation (16)03 on ‘Cross-border coordination for Broadband Public Protection and Disaster Relief (BB-PPDR) systems in the frequency band 698 to 791 MHz’ for publication.

Furthermore, WGFM#86 had finally approved the revised ECC Recommendation (11)06 on ‘Block Edge Mask Compliance Measurements for Base Stations’ for publication. New Annex 4 of this ECC Recommendation now covers the 700 MHz downlink range for MFCN and for BB-PPDR.

All Work Items related to PPDR have been finalised by WG FM.

## GSM-R and future railway evolution

WGFM#86 had approved an amended version of ECC Recommendation (05)08 on ‘Frequency planning and cross-border coordination between GSM Land Mobile Systems (the GSM 900, GSM 1800, and GSM-R)’ for public consultation, based on the proposals submitted by FM54 and ECC PT1.

WGFM#85 in May 2016 had approved a questionnaire to CEPT administrations on national coordination between GSM-R and MFCN, 22 responses were submitted to the ECO. WGFM#86 in October 2016 endorsed the summary and the analysis of the responses as provided by the ECO and FM54. The key outcome agreed was that there would be no modification of ECC Report 229 at this point. A new topic page on the ECC website for railway communications has also been established.

At the WGFM#86 meeting, the on-going activities within ETSI on the development of TR 103 333 (System Reference document (SRdoc) - GSM-R networks evolution) had been noted and the TR is expected until the next WG FM meeting. The European Union Agency for Railways had presented information to WGFM#86 (Feedback from 1st joint RSC/RISC meeting, publication of studies on evolution of GSM-R).

Taking all of the above into consideration, WG FM intends to open a new Project Team for future railway mobile communications after the arrival of the ETSI system reference document, TR 103 333, at the next WG FM meeting in January/February 2017.

The future railway systems may also be part of the so called ‘verticals’ discussion, see agenda item 7.2 above.

## 60 GHz band

The WG FM chairman informed the meeting about the regulations which are currently in force with regard to the 60 GHz band:

1. ERC/REC 70-03 on SRDs (Annex 3, band b), latest version of 21 October 2016: 57-66 GHz: 40 dBm mean e.i.r.p., 13 dBm / MHz maximum mean e.i.r.p density, fixed outdoor installations are not allowed.

2. ECC/REC/(05)02 (latest version of 2009) on ‘Use of the 64-66 GHz frequency band for fixed service’.

3. ECC/REC/(09)01 (version of 2009) on ‘Use of the 57-64 GHz frequency band for point-to-point fixed wireless systems’: 55 dBm max. e.i.r.p.

4. ECC/DEC/(09)01 (latest version of March 2016) on ‘Harmonised use of the 63-64 GHz frequency band for Intelligent Transport Systems (ITS)’: 40 dBm max. e.i.r.p.

5. EC Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices, amended by Commission Implementing Decision 2013/752/EU, band 77 (63-64 GHz) for Transport and Traffic Telematics devices: 40 dBm max. e.i.r.p.

ECC Report 113 (latest version of May 2009) on ‘Compatibility studies around 63 GHz between Intelligent Transport Systems (ITS) and other systems’ and ECC Report 114 (latest version of May 2009) on ‘Compatibility studies between Multiple Gigabit Wireless Systems in frequency range 57-66 GHz and other services and systems (except ITS in 63-64 GHz)’ are relevant.

WGFM#85 (May 2016) had sent a liaison statement to WG SE (SE19). The request is particularly focusing on the possibility to remove the restriction “Fixed outdoor installation” and/or to relax the permitted mean e.i.r.p. In order to obtain a better understanding of the request, SRD/MG had sent a liaison statement to ETSI, and as a response, some industries in ETSI TC BRAN indicated to support this request and provided further information on deployment scenarios and also some example power limitations which are implemented in various countries in the world.

Noting that the regulatory situation in Europe is not harmonised (see ECO Report 04 on FS national implementation information for FS point-to-point links as regulated by ECC/REC/(05)02 and ECC/REC/(09)01 in the EFIS database) national authorisation regimes vary and there are CEPT administrations with individual link-by-link assignments as well as other administrations with general authorisations. WG FM is of the view that a better harmonisation measure should be investigated.

WGFM#86, in October 2016, received a first response from WG SE / SE19. WG FM and SRD/MG will further discuss the response from WG SE/ SE19. The aim is to find a better harmonisation approach for all applications under general authorisation regime.

It was stressed that this approach will have to take into account the designation of the band 63-64 GHz for ITS.

The ECC emphasised that a less restrictive regulation should be achieved, also to provide more suitable possibilities for WiGig and 5G backhauling. See also **Annex 17 /** **Temp 16 Rev1** (D.4).

## ITS in 5.9 GHz

The WG FM chairman informed the meeting about the latest considerations related to the 5.9 GHz band (ITS). See also sections 1.14 and 3.6.13 in the progress report (ECC(16)094).

The Technical Report ETSI TR 103 442 V1.2.1 (‘Shared use of spectrum between Communication Based Train Control (CBTC) and ITS applications’) had been received by WGFM#86 in October 2016. In the band 5 905 MHz to 5 925 MHz, according to the TR, all sharing proposals assume that CBTC urban rail safety related applications will have a prioritisation over the C-ITS applications. In the band 5 875 MHz to 5 905 MHz C-ITS will have the priority. In the band 5 855 MHz to 5 875 MHz both systems are treated equally. The prioritisation rules could be defined in common ETSI protocol specifications for ITS and Urban Rail System.

The TR takes into account the former request from WG FM, which was sent to ETSI after the SRdoc on Urban Rail had been received.

WGFM#86 agreed to the proposal from the SRD/MG to start a revision of ECC Decision (08)01 with the aim to include Urban Rail Systems, for shared use of the current ITS spectrum and Urban Rail (CBTC) in 5 875-5 905 MHz as well as Urban Rail (CBTC) use with future ITS applications in 5 905-5 925 MHz. WG FM also agreed that a revision of ECC Decision (08)01 should not lead to a fragmentation of the spectrum designated to ITS. Future Urban Rail applications are planned to be included in ECC/DEC/(08)01 and must comply with the existing compatibility studies between WAS/RLAN applications and ITS G5 applications as specified in ETSI including the mitigation techniques currently under development.

The ECC meeting endorsed the way forward as proposed by WG FM and agreed to the revision of ECC Decision (08)01. The revision of this ECC Decision should be focused on the implementation of a solution for Urban Rail.

## Review of ECC/ERC/ECTRA Decisions

WGFM#86 had reviewed and updated the list of ECTRA/ERC/ECC Decisions. WG FM took into account the contributions to the general review process provided by SRD/MG, ECC PT1 and FM44. ECC was invited to endorse the updated list (ECC(16)094 - Annex 9) and the proposed way forward (see also ECC(16)094 - Section 1.15).

The ECC meeting endorsed and updated the list, which now also covers the decisions made by ECC#43, as provided in **Annex 19 / Temp** **18 Rev2**.

As a result of the discussions on 5G, see agenda item 7.2 above, a note was added in the list with regard to the ECC Decisions designating spectrum for MFCN.

## 700 MHz Information repository

Bruno Espinosa (ECO) reported about the progress from the ECC Forum Group on 700 MHz information repository on behalf of the Forum Group chairman, Cédric Perros (France). He outlined the responses from the questionnaire on the use of the 700 MHz repository. As a result, the Forum Group developed specifications for an upgrade of the repository, covering improvements for the consultation of data and for the submission of data.

ECO informed that all the enhancements are planned and are expected to be implemented before the end of 2016.

The Forum Group chairman will attend the next meeting of the UHF band South European Digital Dividend Implementation Forum (SEDDIF) to inform them about the 700 MHz Information repository

## Request from WG NaN for approval to develop ECC Decision on Harmonised prefixes and short codes in national numbering plans

WG NaN presented document ECC(16)098 requesting approval to start work on a new work item on harmonised prefixes and short codes in national numbering plans, with the foreseen deliverable of an ECC Decision. It was explained that the outcome of the work would be a decision on a matter of significant harmonisation in the electronic communications field which, in accordance with the ECC Rules of Procedure, would mean a Decision would be the most appropriate deliverable. The proposed Decision would update and supersede CEPT Recommendation T/SF1 (a historic CEPT Recommendation adopted in 1972 and subsequently amended, setting out long-term standardisation of national numbering plans for national and international dialling, emergency services, operator and directory enquiry services) and ECTRA/REC(97)01 on numbering access to voce directory enquiry services.

The ECC approved the proposal to develop an ECC Decision on harmonised prefixes and short codes in national numbering plans.

## Implementation of WRC results

At the ECC meeting in March 2016 (ECC#41, Ghent, Belgium) WG FM had been tasked to consider which measures, in addition to the update of the ECA Table (ERC Report 25), are necessary based on the outcome of WRC-15.

WG FM had agreed on the outcome on that task at its latest meeting in October 2016 (see ECC(16)094 - Section 1.16 and Annex 10).

WG FM invited ECC to endorse the outcome.

The ECC meeting endorsed the conclusions as provided in Annex 10 to ECC(16)094 without any changes. As a conclusion, the ECC considered this task has as finalised.

# Report from RSCOM, RSPG and TCAM

The EC Councillor presented document ECC(16)109 covering the activities of the European Commission since the last meeting. In particular he made reference to the following points: 1) The Commission's package of proposals related to the review of the EU framework for electronic communication services and networks published on 14 September. 2) The RSPG Opinion on 5G, which was adopted on 9 November; 3) The European Parliament's proposed amendments to the 700 MHz decision adopted on 10 November, and 4) the work of the RSC which envisages to adopt a Mandate to CEPT on 5G in the near future. In response to a question on why the 700 MHz band was identified as a pioneer band for 5G, when at the same time 5G was envisaging channels of 100 MHz, he clarified that 5G requirements are diverse, i.e. not only for high data rates but also for pervasive coverage in order to cater for new services such as connected and automated driving.

# Report from ETSI

Dr Michael Sharpe, ETSI observer, presented the ETSI Technical Activities Report, document ECC(16)108.  He drew the attention of the delegates to the following points in particular:

         The work programme under the Radio Equipment Directive (RED) continues to dominate the ETSI activity.  The Directive is in force since 13 June 2016.  Manufacturers have a further year before compliance becomes obligatory.

         Operating under a Standardisation Request from the European Commission, ETSI has published 93 Harmonised Standards, of which 22 are currently cited in the Official Journal of the EU (which is required for conformity with the Directive to be presumed).  A further 61 are currently in public approval, with a further 17 approved waiting to start. Manufacturers can use ETSI published standards or draft Standards in the public domain as the basis of a technical file to be assessed by a Notified Body. A further 35 Harmonised Standards are expected to reach the stage of publicly-available drafts by June 2017, leaving 10 which are forecast to arrive after the date at which compliance with the RED becomes obligatory. The report identifies the status of standards that are particularly relevant to items of this meeting of CEPT/ECC

         Whereas the RED covers equipment which operates at frequencies below 9 kHz, the Radio Spectrum Decision does not allow for the development of EU frequency harmonisation measures at these frequencies.  The RED allows equipment to be placed on the market throughout the EU unless all EU Member States have introduced restrictions preventing its use. The WG FM Chairman reported that this issue has been discussed in WG FM, although there are no plans at present to introduce CEPT measures at this point (e.g. in ERC/REC 70-03). The ECC Chairman encourages WG FM to keep the situation under review.

         WG FM had requested ETSI to develop a System Reference Document to cover eTachograph, in order to support spectrum studies in WG FM and technical studies in WG SE.  It is also indicated in CEPT Report 59 that eTachograph will be considered during the 7th update cycle for the EC Decision on SRDs. ETSI had started to develop TR 103 441, but it was not possible to make further progress as the rapporteur (from the EC Joint Research Centre) has been assigned to other duties and could not continue.   The Commission representative pointed out that the technical characteristics of eTachograph were specified in COMMISSION IMPLEMENTING REGULATION (EU) 2016/799, and suggested that the relevant annex could possibly be used to support the necessary studies.

         ETSI has proposed requirements for IMT terminals, including requirements on the performance of the antenna system, into 3GPP.  Once these are stabilised it is intended to introduce them into Harmonised Standards via the ETSI Technical Committee MSG.  These requirements are not yet mature enough to be introduced into the version of the Harmonised Standard currently under development, but it is intended to introduce them into future versions.  Administrations who are members of ETSI were invited to contribute either to 3GPP directly or via the ETSI Technical Committee MSG.

# Work Programme of the ECC and its subordinated bodies

* **Update of the WG FM Work programme**

WGFM#86 agreed to close the work item on Carrier Identification (CID) due to a lack of contributions (ECC(16)094 - Section 3.2.4).

WGFM#86 approved a new work item on body effect of handheld and body worn PMSE equipment (supported by Austria, Cyprus, Germany, Republic of Ireland, Switzerland, and UK). Input from WG SE is not expected (not required) on this work item (ECC(16)094 - Section 3.3.1).

WGFM#86 approved a new work item on preliminary studies for low power audio PMSE in the 960-1164 MHz band (ECC(16)094 - Section 2.3).

WGFM#86 approved a new work item to develop a flexible “toolbox” for the use of the 2.7-2.9 GHz band for wireless cameras (ECC(16)094 - Section 2.2).

* **Update of the ECC PT1 Work programme :** see section 7.2 and 7.5 above

# Matters related to European Communications Office, ECO

## ECC Newsletter

The ECO introduced document ECC(16)102 providing an update on the ECC newsletters and the timing for the remaining newsletter in 2016.

The last ECC Newsletter in 2016 is planned for November. It will be a Special Edition focusing on the outcome of the 5G workshop and with emphasis on the CEPT 5G roadmap.

In 2017 the first edition of the ECC newsletter is planned for April. It should cover articles on:

• The role of sharing and compatibility studies in effective spectrum management.

• Short term roadmap for 5G in CEPT.

• Migration from PSTN/ISDN to IP-based networks.

ECC members were invited to consider possible issues for further news letters in 2017 and to bring them to the attention of the Office.

## Other matters on ECO support to ECC

The ECO Deputy Director, Bruno Espinosa, presented in document ECC(16)102 an overview of the ECO activities in support of ECC with an emphasis on the recent and planned developments on the CEPT webportal and on the ECO documentation database.

Concerning the CEPT webportal (including the ECC website), ECC was informed about the release of the new design of the CEPT webportal, scheduled for the 15th of December 2016 and about the arrangements planned during the maintenance of the website (13-14 December).

The ECC also noted the publication of the [revised ECC-ETSI brochure](http://cept.org/files/1051/ECC/Who%20are%20we/ECC-ETSI/2016/ETSI_ECC%20Brochure_2016_Web.pdf) (version 2.1) on the European regulatory environment for radio equipment and spectrum.

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

WG FM

The WG FM chairman introduced the remaining issues related to WG FM.

Section 2.1 in document ECC(16)094 provides an overview on approved deliverables.

In addition, he highlighted the following topics (see also part 2 in ECC(16)094).

WGFM#86 finally approved the revised ERC Recommendation 25-10 for publication. WG FM also agreed that the band 1 518-1 525 MHz should be included in this Recommendation. Furthermore, WG FM agreed that this band should be considered by SRD/MG for inclusion in Annex 10 of ERC/REC 70-03.

WGFM#86 finally approved the amended version of Annex 10 of ERC/REC 70-03 for publication. The amended version also includes a new entry, the band 1 350-1 400 MHz for radio microphones and a new Note regarding the band 1 492-1 518 MHz: “This frequency band is identified for the introduction of mobile/fixed communication networks (MFCN) in the future. National administrations may authorise radio microphones in the band as long as they will not have introduced mobile/fixed communication networks (MFCN).”.

ECC at its latest meeting in June 2016 had approved a letter to EASA to confirm the different assumptions and methodologies to be used for a review of ECC Report 66. Through consideration of replies from EASA, FM44 prepared a consolidated document to merge the reference of the current aeronautical regulations and methodology confirmed by EASA which was introduced to WGFM#86. The document will be used to revise ECC Report 66. WGFM#86 also adopted a liaison statement to WG SE on this matter.

WGFM#86 agreed that the CG MBR should now continue its work and will decide at the next meeting about the format of the ECC harmonisation deliverable after having been presented the major items of the draft deliverable from CG MBR. Especially the CG should analyse (draft) ECC Report 259 and develop elements for a future regulation. The ECC plenary had already endorsed the development of a draft ECC Decision on MBR in the 5 GHz band in November 2013.

WGFM#86 submitted three contributions to the ITU (see ECC(16)094 - Section 2.6).

**WG SE**

The WG SE Chairman reported briefly about the remaining issues from WG SE contained in ECC(16)095. He highlighted the following points:

* WG SE approved finally one new ECC Report:
* ECC Report 253: Compatibility studies for audio PMSE in the bands 1 492-1 518 MHz and 1 518-1 525 MHz
* WG SE approved for Public Consultation (till 28 November / 1 December 2016) seven Draft ECC Reports:
* Draft ECC Report 261: Short Range Devices in the frequency range 862-870 MHz
* Draft ECC Report 246: Wideband and Higher DC Short Range Devices in
870-875.8 MHz and 915.2-920.8 MHz (companion to ECC Report 200)
* Draft ECC Report 262: Studies related to surveillance radar equipment operating in the 76 to 77 GHz range for fixed transport infrastructure
* Draft ECC Report 259: Sharing and compatibility studies between Maritime Broadband Radio (MBR) in the 5 850–5 900 MHz frequency band and other systems
* Draft ECC Report 258: Guidelines on how to plan LoS MIMO for Point-to-Point Fixed Service Links
* Draft ECC Report 257: Compatibility studies between low power transmitters for animal tracking and other existing radiocommunication applications in the frequency band 401-403 MHz
* Draft ECC Report 260: Description of methodologies to estimate the technical impact of Wind Turbines on Fixed Radio Links
* SE19 has issued a Questionnaire on the current use and future trends for Fixed Service in Europe in the bands below and above 50 GHz to be used to update ECC Report 173. The deadline was 14 October 2016. SE19 will exploit the inputs received and inform directly other interested PTs, e.g. PT1, FM44.
* Iridium informed SE40 on the three main ways how it is intended to reduce the interference to RAS to about 2 %. A liaison statement to SatMoU was sent stating that WG SE would appreciate receiving measurements of IRIDIUM’s unwanted emissions in the RAS band 1 610.6-1 613.8 MHz as soon as possible after the launch of the first 10 satellites and ideally before the second launch is carried out.
* WG SE has been tasked by WG FM in February 2016 to study the compatibility of BB-PMR/PAMR, smart grids and MFCN with existing systems in the band 450-470 MHz. WG FM has requested in May 2016 to extend the studies also for 410-430 MHz and to include NB-IoT. The number of identified affected systems is eight. SE7 will consider categorizing the different systems and grouping them into groups with similar technical characteristics in order to minimize the number of simulations.
* The ERC Recommendation 74-01 on the unwanted emissions in the spurious domain was developed together with ETSI and is usually updated every 3 to 4 years. The last update was 2011. The next update will be initiated when the workload of ETSI is reduced, which is caused by the inclusion of the receiver parameter in HENs due to RE-D. In the meantime, SE21 has set up the Forum “Proposals for MOD ERC74-1” in order to collect information and requests for the update of ERC Recommendation 74-01.
* Wireless Power Transmission (WPT) is used for charging of mobile devices as well as for electric vehicles. The preferred frequencies are below 150 kHz. ETSI has developed a SRdoc for charging electric vehicles within 79-90 kHz. WG FM has invited WG SE to perform impact studies to ensure that the concerned radio services and applications are properly protected. The results will be used to adjust the related limits contained in the ERC Recommendation 70-03. It is noted that ‘WPT for electric vehicles’ will also be considered under WRC-19 AI 9.1 issue 6. CPG may note the technical studies performed in WGSE and use the results.

In Europe WPT systems is considered as radio device (inductive SRD) and ETSI is developing the limits required to protect radio services. Most countries outside of Europe consider WPT as ISM device for which CISPR/B is developing the limits; noting that CENELEC is responsible for electric devices in Europe.

WG SE will continue to observe very carefully all on-going activities related to WPT with the focus on the appropriate protection of the radio services in the various fora and will liaise, if necessary. SE24 will be tasked to perform the requested impact studies.

* WG SE organisation
* Chairmanship SE24
WG SE welcomed very much that Mr Fatih Yurdal, Turkey, could continue to chair SE24.
* The Forum Group “MCA NCU” is closed.
* Call for nomination of WG SE vice chairmanship
The current Vice chairman Mr. Krunoslav Bejuk, Croatia, indicated that his Administration supports the application for a second term.

ECC PT1

The ECC PT1 Chairman highlighted the other ongoing issues in ECC PT1:

* As part of its regular review of ECC Decisions and Recommendations, the review of ECC Decision (06)01 will begin from the next ECC PT1 meeting
* In response to the new work item assigned to ECC PT1 at the last ECC meeting, ECC PT1 developed a questionnaire on best practices for mobile indoor coverage to be posted on the ECC questionnaires page <http://cept.org/ecc/tools-and-services/ecc-questionnaires/>. The deadline for responses is 30 November 2016.
* As part of its task to assess the suitability of technical conditions in 3 400-3 800 MHz for 5G, ECC PT1 developed a questionnaire to address the issue of fragmented authorisations in the 3.5 GHz band and to gather additional information to that currently available in EFIS to better understand what plans administrations may have to improve the availability and usability of this band, also to facilitate the early availability of a large contiguous spectrum blocks for the initial deployment of 5G networks. The questionnaire is available on the ECC questionnaires page <http://cept.org/ecc/tools-and-services/ecc-questionnaires/> with a deadline for responses of 30 November 2016.
* ECC PT1 sent three draft revisions of ECC Recommendations on border coordination to WG FM for approval for public consultation: ECC/REC/(05)08 on GSM 900 MHz, GSM 1 800 MHz and GSM-R; ECC/REC/(11)04 on 790-862 MHz and ECC/REC/(11)05 on 2 500-2 690 MHz.
* ECC PT1 is reviewing the SEAMCAT LTE parameters for the frequency bands 700 MHz, 800 MHz, 900 MHz, 1 452- 1 492 MHz, 1 800 MHz, 2 GHz, 2.3 GHz, 2.5 GHz, 3.4-3.6 GHz and 3.6-3.8 GHz.
* ECC PT1 has produced proposals for the draft CEPT briefs for WRC-19 agenda items 1.13, 9.1.1, 9.1.2 and 9.1.8. These will be submitted to CPG19-2 for its consideration.
* At the September ECC PT1 meeting it was announced that a new Vice Chairman would be appointed in January. Following the decision at this ECC meeting, ECC PT1 will also launch the process to appoint a second Vice Chairman at the same meeting.

**WG NaN**

The Vice Chairmen of WG NaN (Ms. Liz Greenberg and Mr. Florin Dragomir) presented the Progress Report from WG NaN (document ECC(16)096 rev2).

ECC was informed that the WG had not met since the last ECC meeting in June 2016. At the forthcoming 13th WG meeting on 22-24 November 2016, the WG would hold a focus session on the European Commission’s numbering-related proposals for the Digital Single Market framework and would consider resulting work items for the project teams. The WG NaN will also consider the following deliverables:

* proposed for final adoption
* Draft ECC Report 255 on the use of Assisted-Global Navigation Satellite System (A-GNSS) capabilities to improve caller location information for emergency calls originating on mobile devices; and
* proposed for public consultation
* Draft ECC Recommendation on harmonised assignment and management principles for E.212 Mobile Network Codes;
* Draft ECC Report on feasibility of an ECO-hosted directory of E.164 numbers to facilitate contact between PSAPs in different European countries; and
* Draft ECC Report on migration from PSTN/ISDN to IP-based networks and regulatory aspects.

The annual meeting of Task Force Strategy took place in September, during which the group discussed the organisation of WG NaN and initiated proposals for possible restructure to ensure effective and efficient working, balance of workloads and maximising expertise and flexibility across project teams. WG NaN aims to reach a decision on whether and, if so, how to restructure by June 2017.

The work in progress of the four project teams was presented and noted by ECC. The ECC was informed that PT ES had finalised drafting of the ECC Report on the feasibility of ECO hosting a directory of numbers to facilitate contact between PSAPs in different European countries as directed by the 41st ECC meeting. The draft ECC Report sets out arguments for and against ECO taking over the PSAP-Directory. The document has been submitted to the 13th WG NaN meeting for approval for public consultation. Following this consultation, WG NaN will consider submissions and decide on adoption of the Report at the WG NaN meeting in May 2017. In addition, an internal paper on PSAP-Directory topics not suitable for public consultation, such as budgetary and internal issues for ECO, will be drafted and provided as a restricted document to the next ECC meeting in March for information purposes only. The findings of both documents will be presented to ECC at its June 2017 meeting.

Attention was drawn to the ECC/WG NaN public workshop on numbering for eCall coordinated by ECO to be held on 31 January 2017. The workshop would help inform the WG’s new work item to develop an ECC Recommendation on numbering for eCall.

Following a request from Sweden for clarification on the nature of the WG’s Task Force Strategy and (now replaced) Task Force Numbering Security, it was noted that these were ad hoc groups convened to report to WG NaN on specific tasks, rather than ‘Task Groups’ as per Article 6 of the ECC Rules of Procedure which are established by the Plenary to progress issues of urgent priority.

# Contacts and co-operation with outside bodies

## Cooperation with RED/ADCO and RED-CA

ECO informed the ECC in document ECC(16)103 about the relevant activities related to the RE Directive in ADCO RED, in RED CA and in TCAM WG.

Concerning the cooperation with ADCO-RED, ECC discussed the following areas:

* PMR 446: ADCO RED is of the opinion that the current ECC Decision ECC/DEC(15)05 on PMR446 should be more precise with regard to the requirements for hand portable equipment and integral antenna. ECC noted that this has already been brought to the attention of WG FM and SRD/MG has been tasked to consider the matter further, taking also into account the relevant draft ETSI harmonised standards.
* AIS-SART beacons: ECC invited WG FM and the FM Maritime Forum Group to consider further how to assist ADCO RED in relation to AIS-SART technology equipment placed on the market under the R&TTE / RED (i.e. use on non-SOLAS vessels) and the possible need for an harmonised standard under RE D article 3.3(g).
* Illegal use and non-compliant equipment: in the light of the results from recent ADCO market surveillance campaigns (e.g on 5GHz RLANs and on radio controlled toys), ECC discussed on the possible ways to handle the high number of non-compliant equipment in certain sectors. As a result, ECC highlighted the importance of close cooperation between the concerned organisations (including TCAM, frequency management bodies and market surveillance authorities) both at national and European level, noting also the importance of involving CEPT countries outside EU.

Concerning TCAM WG, the attention of the ECC was drawn to the activities carried out in a dedicated sub-group on the update of the definition of Class 1 subclasses and on the update of the RIS template and the corresponding RIS guide.

## 5G conference - Forum Europe

The ECC Chairman informed the group about a partnership with Forum Europe, which had been discussed within the ECC Steering Group, about the organization of the 5G conference in Brussels. ECC will appear as an official partner of this event and will make two interventions (ECC and ECC/PT1 chairmen). He drew the attention of ECC participants on the flyer which had been distributed and hope that many would be able to attend the event.

## Request from EUROCONTROL to sign a LoU with ECC

The ECC Chairman informed the meeting about a request from Eurocontrol to sign a LoU with ECC and asked the agreement of the meeting for entering into negotiation with Eurocontrol for signing an LoU, using a format similar to the existing ones.

The ECC endorsed this proposal.

# Schedule of Meetings

The schedule of meeting for WG’s and PT for the year 2017 could be found in **Annex 21**.

# Date and Place of next meetings

The following meetings of the ECC are scheduled:

|  |  |
| --- | --- |
| Date: | Country: |
| 28 February – 3 March 2017  | Ireland, city TBD |
| 27 - 30 June 2017 | The Netherlands, Rotterdam |
| 14 - 17 November 2017 | [ Russian Federation] |

# Any other business

 None

# Approval of the minutes of the 43rd ECC meeting

The ECC approved the minutes of the 43rd ECC meeting as given in Document **ECC(16)110**

# Closure of the meeting

The Chairman expressed his gratitude to the Czech Telecommunication Office (CTU) for hosting the meeting in the beautiful city of Prague and for having organized a momentous social event including a very pleasant walking tour of Prague.

He thanked one more time Mr. Jaromir Novak for the kind words of welcome and Mr. Petr Zeman our delightful host

He conveyed special thanks to Mrs. Katerina Svarcova and Mrs. Katerina Chvalinova for the perfect organisation, without forgetting Mrs.Ruzena Leupoldova for the overall organisation.

He also expressed his special appreciation to the excellent ECC Vice-Chairmen Mr. Jaime Afonso and Mr. Sergey Pastukh. He stressed the key role of the Secretary, Mr. Christian Rissone, before, during and after the meeting to facilitate the work of all ECC delegates and ensure the successful results.

At the end, he thanked the ECC participants for their contributions and their willingness to compromise. With that he wished all participants a safe trip home.

The Chairman then closed the 43rd ECC meeting.