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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

on the Radio Spectrum Inventory

1. INTRODUCTION

The EU spectrum inventory was created as part of the radio spectrum policy programme[1] (RSPP) in order to give effect to the principle that spectrum should be used and managed efficiently. The objectives of the inventory are to allow identification of frequency bands where efficiency of existing spectrum use could be improved in order to accommodate spectrum demand in support of Union policies, to promote innovation and to enhance competition.

In April 2013 the Commission adopted an Implementing Decision[2] defining practical arrangements, uniform formats, and a methodology in relation to the spectrum inventory (the inventory decision).

Article 9(4) of the RSPP requires the Commission to report to the European Parliament and the Council on the inventory, in particular on its analysis of technology trends, future needs and demand for spectrum. Article 6(5) of the RSPP requires the Commission to report by 1 January 2015 on whether there is a need for additional frequency bands to be harmonised for wireless broadband.

This report fulfils those two obligations. It highlights the progress made and difficulties encountered in implementing the spectrum inventory; the analysis the Commission was able to carry out based on the available data; and the conclusions which can be drawn at this stage.

2. STATE OF PLAY OF THE SPECTRUM INVENTORY

The spectrum inventory relies on different sources of spectrum information which is available through studies, data provided by Member States to the analysis tool or as part of the implementation of the RSPP and from the work of the RSPG:

- The Commission's analysis tool based on data provided:
  - by Member States to the European Communications Office (ECO) for the Frequency Information System (EFIS) database pursuant to the EFIS Decision[3],
  - by Member States directly to the Commission pursuant to Decision 2013/195/EU.
- Radio Spectrum Policy Group (RSPG) deliverables:
  - 'Opinion on Strategic Challenges facing Europe in addressing the Growing Spectrum Demand for Wireless Broadband'[4] ('WBB Opinion'),

[1] Decision 243/2012/EU; OJ L 81, 21.3.2012, p. 7–17

[2] Commission Decision 2013/195/EU; OJ L 113, 25.4.2013, pp. 18-21

[3] Commission Decision 2007/344/EC OJ L 129, 17/05/2007, p. 67–70

[4] RSPG13-521 rev1

- ‘Report on wireless broadband and broadcasting in the frequency range 400 MHz-6GHz’,[5]
- ‘Report on Strategic Sectorial Spectrum Needs’.[6]

- European Commission Mandates to the Conference of Postal and Telecommunications Administrations (CEPT).
- Studies procured by the Commission over the last two years directly related to spectrum demand and supply:
  - ‘Inventory and review of spectrum use: Assessment of the EU potential for improving spectrum efficiency’ – WIK Study,[7]
  - ‘Analysis of technology trends, future needs and demand for spectrum in line with Art. 9 of the RSPP’ – AM Study.[8]
- Other relevant publications, consultations and data.

2.1.1. Collection of data from Member States

Given the concerns of the Member States with regard to the potential administrative burden if the practical arrangements were too stringent and detailed, the provisions for the collection of data established by the inventory decision were limited to data already available to Member States in April 2013 that shall be provided to the Commission in any machine-readable format and to the gradual provision of additional data that can be made available by the end of 2015.

In order to collect the available data from the Member States in machine-readable format, the Commission developed a data analysis tool and agreed[9] with the Member States that data would be provided to the Commission by 30 October 2013. In setting up the data analysis tool, the Commission, again in response to Member States' concerns, pointed out that data could be sent in the format used at national level. The data analysis tool collects data from EFIS and from the Member States directly, and the Commission has been making a considerable effort to translate multiple data formats into a single database.

Difficulties have been encountered in collecting the data due to diverse data formats, multiple transfer means, confidentiality claims and questions about privacy protection.

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5 RSPG13-522

6 RSPG13-540 rev2

7 http://ec.europa.eu/digital-agenda/sites/digital-agenda/files/cion_spectrum_inventory_executive_summary_en.pdf

8 http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=2881

9 During the RSC#44 meeting 9-10 July 2013

So far, the data from 24 Member States[10] has been imported into the tool developed by the Joint Research Centre (JRC), but some difficulties remain in terms of the data quantity and quality in a number of frequency bands covered by the inventory.

Member States and the Commission are jointly endeavouring to increase the level of available and transferred data, starting with data related to bands relevant to the immediate objectives set by the RSPP. Data about all frequency bands in the range 400 MHz-6 GHz should be collected and provided by Member States in a step-by-step approach by 31 December 2015. However, a number of Member States have stated that they consider it impossible to increase data availability due to national circumstances as provided by the inventory decision in Article 2, point (3).

The Commission services and Member States have engaged in discussions in the Radio Spectrum Committee (RSC) in order to clarify issues relating to the protection of personal data as well as the security of data.

Member States were recommended to provide the Commission with a 'dump' of their database. Around 20 Member States have a spectrum database but only four have followed the recommended approach. Instead many Member States provide a data spread sheet format, which constitutes minimum fulfilment of the requirement for a *machine-readable format*.

As a result, the data collected from the Member States using the data analysis tool developed by the Commission gives only a partial picture of spectrum use in the range 400 MHz to 6 GHz. The data analysis tool alone does not allow the Commission to draw comprehensive conclusions on the existing EU-wide use of spectrum in the entire target range 400 MHz-6 GHz. Therefore, other sources are equally important for implementation of the inventory process.

3. RESULTS OF THE INVENTORY ANALYSIS

3.1. Spectrum supply

Notwithstanding the limitations arising from the data collection process, explained above, the initial inventory analysis has provided significant insights into the situation with regard to spectrum availability and use in the EU. These preliminary results are detailed below.

A number of frequency bands which are currently not used or are substantially under-utilised in most Member States have been identified in Table 1 using the sources indicated above, though there may be variations across Member States. Some frequency bands that were identified in studies have not been reflected below because they are quite narrow (5 MHz) which limits their utility for other services.

[10] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Romania, Slovakia, Slovenia, Sweden, and the UK

Table 1 – Underutilised or unused bands

Frequency band	Comment
870-876 MHz paired with 915-921 MHz	These frequencies are not used in at least eight Member States. On the other hand, six Member States use them for military services, although operations are limited in time and geography.
1452-1492 MHz	These frequencies are allocated to Digital Audio Broadcasting (DAB). However, they remain unused in 21 Member States. Only one Member State reported use for DAB. Two others indicate partial use for wireless cameras.
1785-1805 MHz	This band is available for wireless microphones in many Member States but has remained unused due to lack of appropriate equipment. Two Member States use this band for military services and two others issued licences for wireless broadband networks.
1980-2010 MHz paired with 2170-2200 MHz	These frequencies were designated for mobile satellite services (MSS) across the EU. There is currently only one satellite operating in these frequencies, with serious operational limitations. Some Member States have introduced enforcement measures that include a roadmap leading to the operation of MSS by December 2016. [11]
1900-1920 MHz and 2010-2025 MHz	Although rights of use have been issued for wireless broadband services, these relatively narrow unpaired bands remain unused due to lack of equipment and the potential risk of interference with the adjacent 3G bands.
2700-2900 MHz	Preliminary results show that this band is often used at specific geographical locations for radars thus providing an opportunity for potential geographical sharing with other services.
3400-3800 MHz	See Figure 1
5000-5150 MHz	These frequencies are unused in several Member States. At least four Member States use them for military services. An important satellite feeder link for Galileo is located in the band 5000-5010 MHz.

3.2. Spectrum demand

The analysis of technology trends, future needs and demand for spectrum suggests that many of the different types of applications, categorised in 14 application groupings as

[11] Steps to date: Commission Decision 2007/98/EC on technical harmonisation of the 2GHz band for MSS; EP and Council Decision 626/2008/EC on coordinated selection and authorisation of MSS systems; selection of operators in May 2009 by Commission Decision 2009/449/EC; Commission Decision 2011/667/EU of 10 December 2011 on modalities for coordinated application of the rules on enforcement with regard to MSS pursuant to Article 9(3) of Decision No 626/2008/EC of the EP and the Council, referred to as the 'Enforcement Decision'.

indicated in Table 2 are and will be in need of more spectrum. Table 2 provides for each application grouping a qualitative overview of the demand and technology trends, as well as a quantitative assessment of the short, medium and long-term growth in demand that can be expected for each grouping. The frequency bands in which this type of equipment is typically used are indicative and may not necessarily be used by an application grouping in each Member State.

Table 2 -Demand trends

Legend
ST=Short-term period: 2012-2014, MT=Medium-term period: 2012-2017, LT=Long-term period: 2012-2022.
++ stands for more than a 50% increase, **+** for up to a 50% increase, **=** for limited impact, **-** for up to a 50% reduction, **- -** for more than a 50% reduction.

Application grouping - bands currently used across EU-28 (MHz)	**Key factors driving demand for access to spectrum**	**Demand for future spectrum usage**		
		ST	MT	LT
AMCRN[12] 960-1350 2700-3100 4200-4400 5030-5150	• high-speed broadband and live-TV in-flight services • integration of RPAS into the civilian airspace • advances in radiolocation services	=	=/+	+
Broadcasting 470-790	• implementation and adoption of HDTV and UHDTV • technology migration path	+	+/++	+/++
Mobile 790-862 2010-2025 880-915 2110-2170 925-960 2500-2690 1710-1785 3400-3600 1805-1880 3600-3800 1900-1980	• development and adoption of more sophisticated devices • extent of traffic being offloaded onto Wi-Fi networks (by both consumers and operators) • launch of 3.5G/4G (LTE/LTE-Advanced) technologies	+	+/++	+/++
Defence 406-410 1518-1525 430-433 1700-1710 435-446 2025-2110 446-450 2200-2400 870-876 3100-3410 915-921 4400-5000 1300-1350 5250-5460	• growth in the number of connected devices and in the amount of information exchanged • development and take-up of unmanned aeronautical systems • limited changes in positioning and navigation technologies	=	+	++
Fixed links 1350-1400 2200-2290 1427-1452 3800-4200 1492-1525 5925-6425 2025-2110	• degree of substitution by fibre networks • migration of fixed links to higher frequencies	=/–	–	– –

[12] Aeronautical, maritime and civil radiolocation and navigation systems

ITS[13] 5795-5815 5855-5875 5875-5925	• development and take-up of new ITS applications	=	+	++
Meteorology 401-406 1675-1710 5350-5725	• maintain current spectrum designations for meteorology due to their specific physical properties	=	=	=
PMR/PAMR[14] 406-433 870-880 435-470 915-925	• introduction and take-up of smart grid and smart metering applications	=/+	+	+
PMSE[15] 470-790 2200-2400 1785-1800 2025-2110	• type and number of events • type of equipment • increase in the amount of equipment per event • adoption of HD and 3D cameras	+	+	+
PPDR[16] 3100-3400 5150-5250 4800-4990	• increasing demand for data-rich applications • potential for PPDR services to make use of commercial services and networks	=	+	++
Science 1400-1427 2290-2300 1610-1614 2690-2700 1661-1675 4940-5000	• maintain current spectrum designations for meteorology due to their specific physical properties	=	=	=
Satellite 1164-1215 2484-2500 1525-1610 3600-4200 1614-1661 5000-5030 1980-2110 5850-6425 2170-2290	• increase in backhaul services within the C-band as well as the surge in demand for the S-band	=/+	+	+
Short range devices (SRDs) 433-435 1785-1800 863-870 1880-1900	• growth of RFID devices and growth in different applications	+	+	+
WLAN[17] 2400-2484 5470-5875 5150-5350	• continued growth in Wi-Fi network reach and user adoption	+	+	+

Sources: Final Study report of Analysys Mason; European Table of Frequency Allocations and Applications (ECA); RSPG Report on Sectoral Needs.

13 Intelligent transport systems

14 Private mobile radio and public access mobile radio

15 Programme making and special events

16 Public protection and disaster relief

17 Wireless local area network

4. KEY FINDINGS

On the basis of the preliminary results detailed above, some initial conclusions can be drawn. Unused spectrum in the 400 MHz-6GHz range is rare but there are examples. On the demand side, future spectrum usage is expected to increase significantly for many applications over the next 10 years. This situation makes re-assignment[18] increasingly difficult and costly. The Commission considers that a sustainable way to satisfy spectrum demand in the medium and long term is to invest more time and resources in identifying and developing more sophisticated spectrum sharing concepts as detailed below, subject to the protection of effective competition.

- Licensed Shared Access (LSA) assignment;
- Geographical spectrum sharing with devices linked to geo-location databases (once available); and
- Making more effective use of existing networks and spectrum assignments through densification, increase in spectrum re-use, and spectrum sharing between operators.

In its Opinion on LSA the RSPG defines the concept as *'A regulatory approach aiming to facilitate the introduction of radiocommunication systems operated by a limited number of licensees under an individual licensing regime in a frequency band already assigned or expected to be assigned to one or more incumbent users. Under the Licensed Shared Access (LSA) approach, the additional users are authorised to use the spectrum (or part of the spectrum) in accordance with sharing rules included in their rights of use of spectrum, thereby allowing all the authorised users, including incumbents, to provide a certain Quality of Service'* and recommends that Member States should actively promote discussions and define the possibilities for LSA.

Geo-location databases will allow more efficient use of spectrum by assigning specific channels at specific locations to secondary users in such a way that the primary user of the band does not experience interference. Under a mandate from the Commission, ETSI is currently working on common formats for data exchange between devices and geo-location databases. The deployment of such databases is not limited to any specific frequency band but requires in-depth knowledge of the exact location and protection criteria of the primary user.

Making more effective use of existing assignments and networks is also supported by the RSPG, which considered, in its report on sectoral demand, the possibility of using harmonised bands already available for a given sector, commercial networks or existing infrastructures. The RSPG also considers that many of the future spectrum needs may be met by allowing the widest possible spectrum usage conditions to enable new applications while respecting existing use.

[18] Moving one user (incumbent) out of the spectrum to the benefit of another user (newcomer)

Based on the inventory analysis performed by the Commission and more detailed supply and demand information, the following aspects are worth singling out as inventory output.

4.1. Wireless broadband spectrum

The RSPP sets a target of 1200 MHz for wireless broadband and also required the Commission to report by 1 January 2015 on whether there is a need for additional bands to be harmonised for wireless broadband. The Commission notes the work performed by the RSPG in this context, which recommends *inter alia* that the Commission considers adopting measures related to the frequency bands 1452-1492 MHz and 2300-2400 MHz. Furthermore, it has invited the Commission to develop a strategic plan, which includes future use of the UHF band (470-790 MHz).

The Commission's analysis indicates that pressure will grow on the UHF band since all users have increasing estimated needs. The Commission has launched several activities in preparation for a political decision on the UHF band and World Radiocommunications Conference 2015 :

- Mandate to CEPT to develop technical conditions for wireless broadband in the 694-790 MHz (700 MHz) band, potentially applicable also to PPDR use,
- Request for Opinion to the RSPG on developing a long-term strategy for the UHF band,
- Study on the challenges and opportunities for convergence of terrestrial wireless platforms,
- High Level Group of industry representatives to provide strategic advice to the Commission on future use of the UHF band.

Mandates to the CEPT have also been issued in order to study the technical conditions needed to allow sharing of the frequency bands 1452-1492 MHz (1.5 GHz band) and 2300-2400 MHz (2.4 GHz band) between wireless broadband and incumbent users. So far around 1000 MHz of spectrum have been harmonised at EU level for wireless broadband as shown in Figure 1.

With reference to Table 1, although assigned to mobile operators since 2000 the frequency bands 1900-1920 MHz and 2010-2025 MHz are unused. The Commission has mandated CEPT to study the technical conditions for possibly making these bands available for alternative use. Among the options being examined is the possibility of designating these bands for direct air-to-ground communications (complementing Decision 2013/654/EU[19] on mobile communications on board aircraft) in coexistence with cordless cameras and short range devices.

[19] OJ L 303, 14.11.2013, p.48

Additional harmonised frequency bands for wireless broadband

Based on the analysis of spectrum supply and demand, the Commission believes there is currently no need for additional spectrum harmonisation, beyond the 1200 MHz target, in the range 400 MHz-6 GHz for licensed wireless broadband.

This conclusion is supported by the following considerations:

- The level of under-utilised spectrum for mobile broadband is still significant – approximately 30% (see Figure 1 below), mainly but not exclusively in the 3.4-3.8 GHz range due to lack of demand[20] and/or linked to usage difficulties.[21] In 2012 the Commission adopted a Decision[22] harmonising use of the paired 2 GHz bands on the basis of technology neutrality, thus opening this band for next-generation technologies such as LTE. Both bands can cater for the deployment of denser cellular networks with a high capacity;

- Preliminary results of research on next generation technologies indicate that very large channels would be necessary for 5G networks. To meet this requirement, at least in short-range scenarios, spectrum above 6 GHz would be required in addition to the 1200 MHz already achieved for mobile broadband. Linkage to the 5G PPP[23] is important to ensure that the spectrum inventory takes into account further technology trends as well as data available from the partnership regarding specific bands;

- The deployment of small cells for mobile network densification (with licensed spectrum use) or mobile traffic offloading[24] (via WiFi with licence-exempt spectrum use) as well as the latest mobile network technologies still carries a high potential for additional wireless broadband capacity throughout the Union based on more sophisticated spectrum re-use.

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20 'Lack of demand' is the reason given by 21 Member States for not having assigned the relevant spectrum. This information was collected from Member States as part of the Commission's efforts to implement the RSPP, in particular Article 6.

21 Difficulties such as cross-border coordination, in particular with third countries, and difficulties related to equipment availability. In order to improve the latter, the Commission has updated its implementing decision on 3.4-3.8 GHz introducing a recommended channelling plan and conditions optimised for broadband technologies, such as LTE.

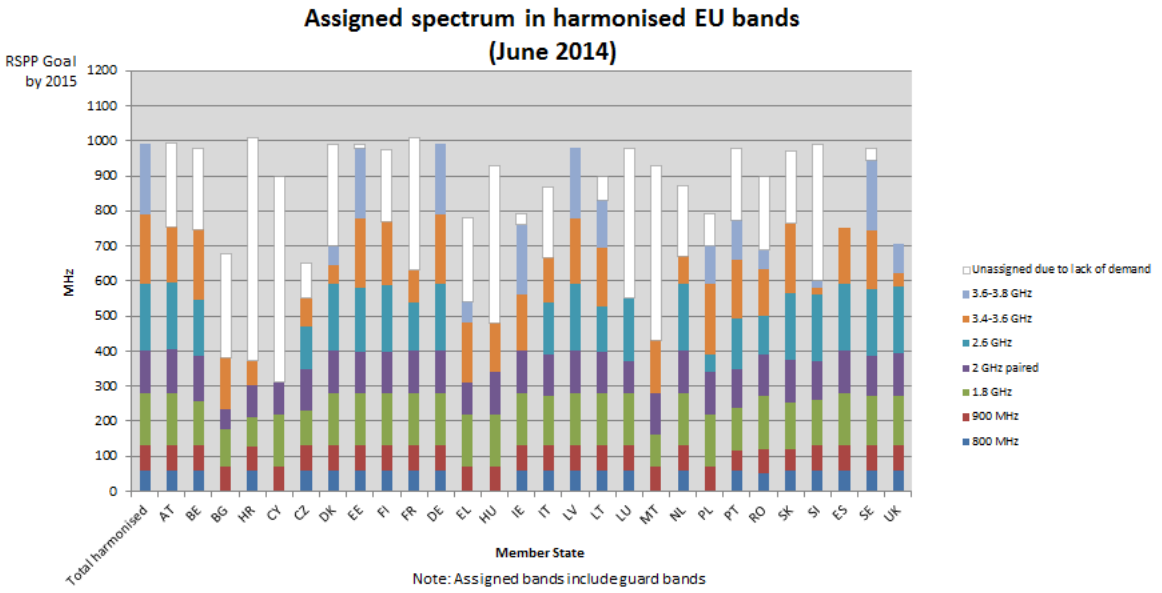
22 Decision 2012/688/EU; OJ L 307, 7.11.2012, p. 84–88

23 On 17 December 2013, Vice-President Kroes signed an agreement with the '5G Infrastructure Partnership'. The Partnership is an industry association comprising public-private partners

24 A study funded by the Commission on traffic off-load observed, based on measured smart phone and tablet usage patterns, that 71% of all wireless data traffic was delivered over WiFi in 2012. The study estimates that this figure will grow to 78% by 2016 while cellular traffic is estimated to continue growing at a rate of 66% per year until 2016. The socio-economic value of these bands can be compared to the cost of providing the same amount of data capacity with cellular technologies alone: the study estimated that delivering all the 2012 WiFi data traffic in the EU via mobile networks would have required infrastructure investments of €35bn, and €200bn would be necessary by 2016 to cope with the projected demand.

Figure 1 gives an overview of the frequency bands that have been harmonised at European level for use by wireless broadband (ca. 1000 MHz in total). Where the bars do not reach the 1000 MHz mark spectrum has not been fully assigned to operators in that Member State. In some Member States there is lack of demand[25] but this is related to higher frequency bands (primarily 2.6 GHz and 3.4-3.8 GHz). There is no lack of demand below 1 GHz.

Figure 1 – Spectrum assigned to wireless broadband in EU harmonised bands



4.2. Sharing of radar bands

Preliminary results from the JRC analysis tool show that the 2700-2900 MHz band is often used at specific geographical locations leaving unused areas for spectrum sharing. Combined with information taken from studies there are 14 Member States operating aeronautical radars at fewer than five sites in the entire country (usually airports). With some exceptions most Member States have fewer than 20 national sites in operation for radar, and geographical sharing with other services is possible in many parts of Europe. In response to a Commission mandate on PMSE, CEPT Report 51 identified this band as a possible new band (among others) for temporary use of cordless cameras with geographical constraints to protect existing radar applications.

4.3. Wireless microphones

Due to more efficient use of spectrum by primary services, PMSE users are likely to lose spectrum capacity in the UHF broadcasting band and will have to consider other

[25] Lack of demand has been confirmed by Member States to the Commission within a mutual (pilot) procedure on the enforcement of Article 6, RSPP. It includes the following cases: (i) a licence has been returned to the spectrum regulator, (ii) spectrum on offer has remained unsold during an auction, (iii) there has been no interest shown during a public consultation.

technologies and/or bands alongside their deployments in the UHF broadcasting band. Technology trends show that more efficient use could be achieved through more use of digital microphones[26]. Further studies will be necessary to evaluate the possibility of harmonising spectrum around 1.5 GHz, as suggested by stakeholders, for audio PMSE.

The Commission is currently working on a draft Decision on audio PMSE which would include a proposal to harmonise a 'core' band of 29 MHz in the 800 MHz and 1800 MHz bands (in the so-called duplex gaps), as well as providing for 30 MHz of additional spectrum for audio PMSE users to satisfy the basic needs.

4.4. Satellite communications

Inmarsat Ventures Ltd and Solaris Mobile Ltd were selected in 2009 as operators of pan-European systems providing mobile satellite services (MSS),[27] and were required to start operating a portion of the 1980-2010 MHz and 2170-2200 MHz bands within two years. Due to the limited use mentioned in Table 1, some Member States have introduced enforcement measures pursuant to Decision 2011/667/EU[28] which include a new roadmap leading to the operation of MSS by December 2016. In response, both Solaris and Inmarsat have recently come forward with plans. Should these enforcement activities not lead to timely use of the bands in compliance with the common conditions, the bands could be considered for new uses such as terrestrial wireless broadband, as suggested in the RSPG Opinion on wireless broadband and in the WIK Study.

The so-called C-Band (3600-4200 MHz) is used for satellite communications in Europe. Decision 2008/411/EC[29] harmonised the 3400-3800 MHz band for terrestrial systems but its use for wireless broadband is currently low. As outlined in section 4.1 the probable use for small cells makes capacity constraints for wireless broadband in this range unlikely. On the other hand the analysis concluded that the increase in satellite bandwidth required for backhaul and trunking services, professional services, and the continuously increasing bitrates used for video distribution will be the main trends pushing satellite spectrum demand upwards and that most of those needs may be met by the C-band. This is a valuable band for satellite use as it contains quite a large amount of spectrum at relatively low frequencies which have superior propagation characteristics (allowing very wide coverage) and are less susceptible to rainfall and humidity (enabling signal resiliency) than higher satellite frequencies. There are over 180 satellites providing C-band services and at least 50 of these cover Europe, where this band is used mainly by professional services, due to the high cost associated with the equipment required to operate in such a band. There are around 1400 ground sites in the EU communicating bi-directionally with C-band satellites.

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[26] It is recognised that not all audio PMSE equipment can migrate to digital technology, in particular as long as there are issues related to processing delays that cause noticeable delays for the human ear.

[27] Decision 2009/449/EC; OJ L 149, 12.6.2009, pp. 65–68

[28] OJ L 265, 11/10/2011, pp. 25–27

[29] OJ L 156, 14/06/2008, pp. 14–15

In light of the above, the Commission considers that demands to allow terrestrial wireless broadband services in the whole C-Band (i.e. in 3.8-4.2 GHz as well as 3.4-3.8 GHz) would not be justified. In order to safeguard growth of satellite services in the C-Band and to support the densification of use by satellite in the 3.8-4.2 GHz band the Commission intends to propose studies that could lead to a harmonisation measure for satellite broadband/VSATs in the 3.8-4.2 GHz band.

4.5. Short range devices

These applications have an important role to play in ensuring spectrum for smart energy grids, smart meters and Internet of Things (IoT). They also include RFIDs, M2M communications and mesh networks.

Sharing with incumbent users (primarily military systems and GSM-R) in the 870-876 MHz and 915-921 MHz bands was studied by the CEPT, which determined a set of minimum parameters for such use and incorporated its findings into a recommendation[30]. The sustained industry interest in these bands makes them an important target for the next update of Commission Decision 2006/771/EC[31] on harmonisation of the radio spectrum for use by short-range devices.

5. CONCLUSIONS

While the spectrum inventory can deliver results as outlined above, it is also apparent that some of the data, collection of which was envisaged will remain unavailable for the foreseeable future in some Member States which do not themselves collect this data and which consider it impossible to increase their data availability.

With the aim of using resources effectively, the Commission will continue to cooperate with the Member States both in collecting data that are already available at Member State level and in obtaining additional data on a targeted basis. In particular frequency bands relevant to the implementation of the RSPP will be targeted. In addition, the Commission will seek relevant data from Member States that request derogations from harmonisation measures on the basis of particular national situations. Such requests could be linked to the provision of detailed usage-based data in machine-readable format, since it can be assumed that such data must be available to substantiate derogations.

Results from the data analysis tool will be useful, in particular where geographical sharing is shown to be feasible. While noting the challenges in the collection of data as outlined above, the data analysis tool will be complemented through other sources, e.g. through studies, inputs from RSPG or direct information from spectrum users, which includes by collecting their views on the key findings of this report.

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30 ERC Recommendation 70-03

31 OJ L312, 11.11.2006, pp. 66-70

The Commission will continue to build up the inventory with the aim of fulfilling its main purpose – achieving more efficient use of spectrum. While this was always perceived to be a task involving an incremental approach, building up experience and trust in the inventory process, the importance of evidence-based spectrum policy-making remains high on the agenda as demands for more spectrum from many sectors have been documented in this report. The inventory is a vital tool to help national and EU policy makers make decisions about more efficient use of spectrum in the future. As such, discussions will continue with the Radio Spectrum Committee members on how to pursue the collection of data for the inventory.