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**RADIO SPECTRUM POLICY GROUP**

**RSPG Opinion**

**on**

**a Radio Spectrum Policy Programme (RSPP)**

# 1. Introduction

The Radio Spectrum Policy Group (RSPG) gathers high-level governmental experts of EU Member States. The RSPG provides the Commission, European Parliament and the European Council with strategic advice on high-level policy matters in relation to spectrum.

The current Radio Spectrum Policy Programme<sup>1</sup> has been the basis for efficient spectrum policy since 2012. Most of its provisions have been implemented, however many of the themes are still valid. The challenges in spectrum policy have shifted but the need for clear spectrum policy direction is as valid as ever. Europe is today facing COVID-19, a societal and economic challenge of unprecedented scale. Connectivity and technological advance are cornerstones of economic recovery. In this context, it is crucial that a new Radio Spectrum Policy Programme, building on the forward-looking spectrum policy elements of the European Electronic Communications Code (EECC)<sup>2</sup>, benefits the internal market, EU economy and society as a whole. Efficient use of radio spectrum supporting EU policies while maximising societal value is the overarching target.

A future Radio Spectrum Policy Programme is a mean to support key Union policy areas: the European Gigabit Society, the European Green Deal, New industrial strategy for Europe and Shaping Europe's digital future, Europe's digital decade.

This deliverable represents the RSPG's response to the European Commission's request for an Opinion on a Radio Spectrum Policy Programme<sup>3</sup>.

RSPG is ready to respond to any request from Commission, Council and the European Parliament based on this RSPP Opinion. RSPG is ready to engage with stakeholders on strategic spectrum issues through public consultations and workshops.

Before transmitting this Opinion to the Commission, it was submitted to public consultation in order to increase transparency and allow participation of all stakeholders. The public consultation on the draft version of this Opinion was held from 15 February to 26 March 2021. In all 44 responses were received. RSPG appreciates all the valuable contributions and comments which were considered when elaborating the final Opinion. It should be noted that comments made have been used also as input to other workstreams of the RSPG. For more information on the public consultation responses see the RSPG website, <https://rspg-spectrum.eu/public-consultations>.

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<sup>1</sup> Decision No 243/2012/EU of the European Parliament and of the Council of 14 March 2012 establishing a multiannual radio spectrum policy programme

<sup>2</sup> Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (Recast)

<sup>3</sup> RSPG20-003

## 2. Strategic Spectrum issues

### 2.1. Spectrum Sharing

- European Commission and Members States should
  - actively promote innovative spectrum sharing solutions to ensure greater spectrum efficiency and to enhance flexibility in spectrum access by following the “use-it-or-share-it” principle, and supporting the development of spectrum pooling and multi-tiered spectrum access approaches, including those assisted by geolocation databases or other ICT-based solutions, while highlighting the need to consider the competition aspects in assessing any specific case at hand.
  - promote the development of sharing frameworks for different bands or categories of bands and services considering that not every spectrum sharing approach may be suited for every band and involved services,
  - engage in spectrum sharing including with a view to foster more dynamic/opportunistic spectrum sharing through research and the preparation of tests and trials, as well as by sharing experience.
  - prevent obstacles to dynamic spectrum sharing by facilitating introduction of cognitive radio technologies (for example those relying on databases) through ETSI and CEPT deliverables, by building trust amongst industry and users through practical implementation of solutions accompanied by an efficient market surveillance and spectrum monitoring framework.

### 2.2. Licensing and Spectrum Awards

- In order to facilitate access to spectrum in ECS harmonised bands, the RSPG recognises that different types of authorisation methods and regimes can facilitate innovation, protect and increase competition, lower entry barriers, attract investment and facilitate the development of different technologies, while noting the national competence to issue authorisations.
- In addition to nationwide licenses and in order to respond to demand for local licenses, the RSPG identifies the following licensing regimes for local networks including those local networks which support various verticals requirements:
  - There is a need to remain flexible and to enable different network solutions and topologies. Local networks could be provided by mobile operators, third-parties or directly by the local users themselves. The response to demand for local spectrum can be met through spectrum leasing (voluntary/mandatory), by dedicated spectrum allocations for local networks and/or by third party operated local networks.
  - Another option is the use of unlicensed spectrum where possible.
- The solutions for local licenses depend on the national situation and on spectrum availability. Any legal framework must maintain the current flexibility for the Member States already established with the EECC.
- RSPG encourages Member States, based on national legislation, to engage in actions on digitalisation of processes such as automation of individual authorisation

on first come/first served licensing basis. A mutual sharing of experiences, solutions and lessons learned could be beneficial.

- In terms of authorisations, Member States should consider authorisation methods and frameworks, which fully exploit flexibility from provisions of EECC by introducing elements of innovation in the process, including those based on approaches and technologies described in the RSPG report<sup>4</sup> on spectrum sharing.
- Given examples to provide authorisations in a dedicated spectrum band under a light licensing regime based on an automated platform, Member States may consider applying similar approaches to their respective authorisation processes to foster more dynamic spectrum sharing.

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<sup>4</sup> See RSPG21-016 Final Report on Spectrum Sharing: a forward-looking survey (2021)

### 3. Spectrum needs and supporting EU vision/policies

- In order to respond to European policy initiatives such as the Green Deal, Gigabit Society, Shaping Europe’s digital future (beyond 5G, 6G, resilient & secure communications), transport communications, Audio-visual Media, Europe’s Digital Decade, Member States shall, in cooperation with the Commission, aim at ensuring there is sufficient spectrum available for those policy areas based on spectrum needs.
- The RSPG considered a policy target of making available at least 12 GHz of spectrum below 100 GHz (including already EU-harmonised spectrum) to promote innovative wireless services, including next generation mobile and wireless access systems (such as Wi-Fi). With initiatives well underway, there is in fact already more than 12 GHz of harmonised spectrum available for wireless services and no need to define any quantitative target in RSPP to respond to EU policies:
  - RSPG confirms the need for inclusion of policy objectives supporting the development of innovative wireless services based on generic description rather than quantitative.
  - In addition, as has been done recently for 5G, the RSPG can develop long-term spectrum availability plans including needs for harmonisation initiatives for key EU policy areas upon request.
- The RSPG recommends that the Commission, the Council and the European Parliament also take note of specific strategic EU policies regarding services other than electronic communication services (ECS), for which spectrum needs should be addressed. To this end, RSPG can develop strategic recommendations on spectrum needs and/or requirements of the internal market.
- The RSPG recommends that the European Commission consults the RSPG before developing specific sectoral policies using spectrum.
- Based on RSPG recommendation, a mandate to CEPT should be developed in accordance with the Radio Spectrum Decision when there is a need to adopt harmonised technical conditions. In parallel, when appropriate, a standardisation request should be sent to ETSI.

#### 3.1. Innovative wireless services

- RSPP should encourage and incentivise more efficient spectrum use, avoiding fragmented use as much as possible.
- European Commission and Member States should actively support 6G research and the development of future eco-systems in response to European policy objectives and, when needed, ensure that available EU harmonised spectrum is able to support the development of 6G and other technologies beyond 5G.
- There are opportunities to meet demand for fixed wireless access within ECS harmonised spectrum. Flexible use is already possible within the current regulatory framework. In consequence, European Commission and Member States should support the flexible usage of ECS EU harmonised spectrum in order to support fixed wireless access and wireless backhauling.

- RSPG recommends that spectrum related options should be developed for addressing vertical needs in the mm-Wave-bands.
- Wireless backhauling supports the development of ECS and is an important component of ECS networks. The RSPG acknowledges that role. However, no need for spectrum policy initiatives has been identified to respond to a growing demand, which will continue to be addressed at national level.
- European Commission and Member States should contribute to improving broadband connectivity by ensuring availability of spectrum for WAS/RLAN applications and by using shared spectrum including with innovative solutions (such as automated shared spectrum solutions to improve access to spectrum).
- While respecting the international regulatory framework, the European Commission and Member States should support the further development of High Altitude Platform Stations (HAPS) responding to Public Protection and Disaster Relief (PPDR), defence and temporary and permanent connectivity needs. Member States may make available relevant identified spectrum responding to national needs. The development of HAPS may also trigger the use of HAPS as IMT Base Station ("HIBS") which will be studied at WRC-23 and are envisaged as a future connectivity platform for mobile coverage.

### **3.2. Space**

- European Commission should inform RSPG in due time on the development of EU space policy and EU policy initiatives accordingly, including on matters relating to the Space Programme of the Union. Examples are the next generation of Governmental Satellite Communication (GOVSATCOM) and Space Situational Awareness<sup>5</sup> when spectrum related elements are concerned.
- European Commission and Member States should, subject to political decision, from a spectrum policy perspective, support the development of an innovative satellite system to achieve EU controlled connectivity and to provide governmental services with reliable, resilient and cost-effective satellite communications services.
- Member States should respond to spectrum needs and contribute to long term spectrum access and protection of satellite systems supporting EU public policies and services and contribute to development of measures to improve efficiency of spectrum usage, including sharing with other services and between satellites.

### **3.3. Transport**

- Member States should ensure the availability of spectrum for public transport purposes and implement relevant EU Decisions for FRMCS and ITS urban rail supported by coherent European standardisation initiatives (including for example FRMCS receivers). Member States should support the development, where appropriate, of any additional spectrum measures such as cross border coordination or sharing with others usages or use of innovative 5G services, including commercial networks, if compatible with other non-spectrum EU regulations.
- European Commission and Member States should monitor ITS market developments and evolution of European standards and technology supporting ITS

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<sup>5</sup> monitor space hazards under the 'space situational awareness' programme (SSA)

usage in order to maintain efficient usage of EU harmonised spectrum. Due to technology neutrality implemented in spectrum regulation, any support to a particular ITS road technology remains at the initiative from European Commission.

- European Commission and EU Member States should support
  - the development of connectivity on-board (cars, trains, aircraft) based on EU harmonised spectrum.
  - the development of autonomous vehicles based on ITS and other EU harmonised spectrum.

### **3.4. Broadcasting and PMSE**

- The RSPG is of the view that the future of broadcasting and PMSE in regard of the UHF Band 470-694 MHz shall not be subject of a new RSPP (see also section 6.6)
- The UHF 470-960 MHz band is on the agenda for the upcoming WRC23 conference and RSPG intends to provide a recommendation to the EC on an EU position accordingly in its opinion towards WRC23. The current Council and European Parliament Decision<sup>6</sup> is providing legal certainty until 2030 to terrestrial broadcasting<sup>7</sup> and PMSE including conditioned national flexibility<sup>8</sup>.

### **3.5. UAS/drones**

- The European Commission and Member States should support the development of UAS/drones within relevant harmonised ECS bands.

### **3.6. Sector spectrum needs in response to combat climate change**

- The European Commission should reaffirm that it is best practice that the ITU process be used for sectors where the sectoral need for spectrum is mainly worldwide (including Galileo, GMES, scientific services, EESS).
- For sectors such as the transport, health, industry and energy sectors not only relying on the Radio Regulations but also requiring additional assessments to respond to their needs, the current ETSI-CEPT cooperation is recommended. This cooperation in practice also includes the possibility for the EC to issue mandates to CEPT and ETSI.
- Based on the results of assessments (for both ECS and non ECS) in accordance with the methodologies to be developed and other sector specific developments, the

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<sup>6</sup> Decision (EU) 2017/899 of the European Parliament and of the Council of 17 May 2017 on the use of the 470-790 MHz frequency band in the Union

<sup>7</sup> See also section 6.6

<sup>8</sup> See article 4 - Decision (EU) 2017/899 “*Member States shall ensure availability at least until 2030 of the 470-694 MHz (‘sub-700 MHz’) frequency band for the terrestrial provision of broadcasting services, including free television, and for use by wireless audio PMSE on the basis of national needs, while taking into account the principle of technological neutrality. Member States shall ensure that any other use of the sub-700 MHz frequency band on their territory is compatible with the national broadcasting needs in the relevant Member State and does not cause harmful interference to, or claim protection from, the terrestrial provision of broadcasting services in a neighbouring Member State. Such use shall be without prejudice to obligations resulting from international agreements, such as cross-border frequency-coordination agreements.*”

European Commission in cooperation with Member States should ensure that adequate spectrum is made available under harmonised conditions to support EU initiatives to combat climate change and improve energy saving.

- Member States should ensure the availability of spectrum for public transport purposes, as appropriate.



## 4. Spectrum governance

### 4.1. EC-CEPT cooperation

- The RSPG re-affirms that the existing cooperation between CEPT and EC is a main pillar process for strategic spectrum harmonisation under the Radio Spectrum Decision. This process is key to support EU policies and internal market objectives.
- In relation to response(s) to EC mandate(s), the RSPG notes that CEPT as of today could inform the European Commission of the assumptions about the authorisation regime considered when developing technical conditions and provide advice on the timing for the implementation of the harmonisation measures<sup>9</sup>.
- The RSPG confirms that there is currently no need to set dates in RSPP for coordinated timing of spectrum awards. Relevant procedures are already included in EECC (see Article 53) when implementing harmonisation measures for wireless broadband networks and services developed under Radio Spectrum Decision. Nevertheless there may be cases where a coordinated timing between Member States could be needed. In such exceptional cases the RSPG should take a leading role.

### 4.2. National coordination/European Coordination

- Based on the “RSPG Decision”<sup>10</sup>, the RSPG will support the implementation of future strategic objectives and provide recommendations to European Commission accordingly.
- Where appropriate, on the basis of the “RSPG Decision”, coordination and cooperation between the Member States could already trigger initiatives from RSPG in order to learn from each other or to implement more rapidly EU measures.

### 4.3. Civilian/Military coordination

- The RSPG recommends that a new RSPP continually observes the sovereignty of Member States, individually or collectively, to organise and use their spectrum for public order, security and defence purposes<sup>11</sup>.
- The RSPG recommends that the European Commission recognises initiatives from Member States to increase efficiency in use of spectrum when using spectrum for public order, security and defence purposes.
- The RSPG recommends that the European Commission recognises confidentiality aspects relative to spectrum usage for public order, security and defence purposes.
- The RSPG recommends that Member States continue to investigate sharing opportunities between spectrum usage for public order, security and defence purposes, and other spectrum use whenever feasible.

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<sup>9</sup> see Article 53 EECC

<sup>10</sup> Decision 2019/C 196/08, Commission Decision of 11 June 2019 setting up the Radio Spectrum Policy Group and repealing Decision 2002/622/EC

<sup>11</sup> see TEU, Article 42-2 “*The policy of the Union in accordance with this Section shall not prejudice the specific character of the security and defence policy of certain Member States and shall respect the obligations of certain Member States, which see their common defence realised in the North Atlantic Treaty Organisation (NATO), under the North Atlantic Treaty and be compatible with the common security and defence policy established within that framework*”

- The RSPG recommends that Member States and the European Commission consider Common Security and Defence Policy<sup>12</sup> issues using spectrum when developing harmonisation measures supporting EU Public Policies using spectrum.
- The RSPG confirms the need to maintain in new RSPP references to public order, security and defence as a national competence as mentioned in Radio Spectrum Decision (art.1), the current RSPP (Decision 243/2012/EU) (art1) and noted by EECC<sup>13</sup>.

#### **4.4. Standardisation and spectrum governance**

- The RSPG confirms that reference to the key pillars of European harmonisation: cooperation between CEPT and ETSI and CENELEC shall be recalled in the RSPP.
- The RSPG appreciates that recital (111) EECC highlights the need that the Commission co-ordinates closely the content and timing of mandates to CEPT under the Radio Spectrum Decision and standardisation requests to ETSI.
- The RSPG recommends efforts to shorten the time gap until ETSI harmonised standards consistent with EC Decisions are published in order to facilitate radio spectrum sharing opportunities and ensure efficient radio spectrum management.
- The RSPG supports the promotion of adequate receiver performance and recognises that specifying relevant radio receiver parameters becomes increasingly necessary to facilitate the introduction of future systems, to extend sharing opportunities and to ensure efficient spectrum management.
- The RSPG recommends Member States to contribute to the development of harmonised standards under the Directive 2014/53/EU by the European standardisation bodies (i.e. ETSI) in order to ensure that adequate values for radio receiver parameters are specified and to ensure consistency of those standards with the EU radio regulatory framework.

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<sup>12</sup> see [https://eeas.europa.eu/topics/common-security-and-defence-policy-csdp/431/common-security-and-defence-policy-csdp\\_en](https://eeas.europa.eu/topics/common-security-and-defence-policy-csdp/431/common-security-and-defence-policy-csdp_en)

<sup>13</sup> Recital 108

## **5. External relations**

### **5.1. International negotiations at World Radiocommunication Conferences**

- Further to WRC19, the RSPG concluded that the cooperation between RSPG and EC regarding the preparation of the two last WRC's has been both effective and efficient. The formats developed have served the European policy well and shall thus be maintained. As a consequence, the RSPG confirms that there is no need to describe these principles in the requirements/obligations of the new RSPP, or to duplicate their legal basis in a new RSPP.

### **5.2. International negotiation with third countries on spectrum coordination issues**

- The RSPG recommends that
  - Member States should continue to attend the RSPG "good offices" where EC is already providing feedback on Union actions in relation to third countries (so to be well informed of EC actions).
  - On the basis of EECC art. 28.5, the Union shall jointly define, by cooperating with any Member State having expressed its request for support to resolve radio spectrum coordination issues with countries neighbouring the Union, the scope of such support and agree on both its objectives and its time horizon.

### **5.3. Cooperation and negotiations of the European Commission with other organisations and non-EU countries**

- The RSPG recommends to apply the principle of sincere cooperation by involving the Member States in the decision making process of cooperation agreements with other countries/regions/organisations covering any spectrum aspects in order to ensure a coherent EU strategic policy.

## 6. Other policy areas with spectrum dimension

### 6.1. Migrating regulatory service obligations to the latest technologies

- The RSPG recommends
  - the European Commission, when deviating from the principle of technology neutrality, to promote a particular wireless technology supporting services responding to EU public policies (i.e. e-call), to analyse the possible impact and respond to arising challenges. Such an analysis has to take note of the different stages of development of wireless technologies in Member States including the reasoning behind, like their support of national policies (i.e. 4G coverage, 5G coverage).
  - European Commission and Member States should anticipate any impact of possible future phasing out of some legacy systems (2G, 3G, and 4G) in the next decade.

### 6.2. Green New Deal / Climate change

- The RSPG supports the policy objectives to reduce the Union's carbon footprint, goal of zero emissions of EU economy, digitalisation/automation economy sectors by enhancing the technical efficiency and energy efficiency of wireless communication networks and equipment. RSPG is of the view that the following recommendations may support those objectives
- The RSPG invites Member States to initiate national climate and environmental strategies within the ICT sector including wireless. The European Commission should monitor these national strategies and, if appropriate, should, in the course of time, put forward an EU wide strategy based on the national strategies.
- The RSPG is of the view that
  - Member States should recognize that monitoring of climate change, collecting data for weather forecasting or gathering climate-related data are important tools to combat climate change. In consequence, Member States and the European Commission should ensure long-term spectrum availability and protection for radio systems supporting them, where appropriate. Member States should cooperate as necessary in order to assess and solve radio interference into these services.
  - The European Commission in cooperation with Member States should support technologies contributing to climate change monitoring / climate protection aspects, where appropriate
- The RSPG welcomes
  - self-regulation and other voluntary initiatives of the wireless ECS sector to reduce its carbon footprint and incentivise the increase of the share of electricity consumption from renewable energy sources.
  - wireless ECS sector cooperation and coordination to develop energy efficient standards and to design services and equipment based on such standards.
- The RSPG is of the view that

- The flexibility given by EECC framework under a general interest objective should be maintained in order to address climate protection.
- Member States should share best practices on the implementation of the strategic objectives of the current RSPP in order to reduce the carbon footprint related to wireless communication networks and equipment in the European Union.
- The RSPG will consider further work based on assessing the benefits of these best practices and assess any possible follow up actions.
- The RSPG invites
  - the European Commission to take energy efficiency and other climate related aspects into account when funding research within the wireless sector.
  - the European Commission with Member States to promote the development of methodologies to assess the impact of ECS wireless technologies on climate change (i.e. Energy Efficiency, Circular Economy, etc.) with involvement of ECS stakeholders and all interested parties (including citizens) and, where appropriate, with the support of ETSI including if needed CEN and CENELEC. Those methodologies should include a focus on ECS radio component (base stations, terminal) including impact of frequency bands.
- The European Commission and Member States should assess whether and how ECS network operators could report on their emissions and contributions to the Union's environmental targets. The RSPG will contribute to any such assessments within its field of knowledge and expertise.

### **6.3. Electromagnetic fields, EMF**

- The RSPG recommends continuing and increasing collaboration, sharing of information and learning from each other on a European level. This collaboration should include different policy areas involved in EMF issues.
- In addition, Member States are invited to take into consideration citizens' concerns and exchange information and best practices in order to contribute to a better understanding by the public of these issues and to promote transparency with regard to 5G technology.

### **6.4. National security, Network security and Cyber security**

- It is the view of the RSPG that National security, Network security and Cyber security are not issues that are per se related to the parts of radio spectrum that are intended for general, commercial or industrial use. However, it is of paramount importance that the allocation and use of radio spectrum is effective, transparent, trusted and secure. As a result of the digitalisation of society our dependencies on networks, applications and digital solutions are creating increased general vulnerabilities.
- The RSPG supports the work performed under the 5G security toolbox and follow up related initiatives. Any EU initiatives should be coordinated with relevant work undertaken by ENISA, BEREC and other relevant European cooperative fora.

## 6.5. Pandemic response

- The RSPG recommends that
  - Lessons learned and experiences gained have to be acknowledged and included in a new RSPP to promote the role of wireless connectivity for the functioning of our economy and society during all sorts of crisis, in particular during a pandemic period and subsequent recovery.
  - Innovative methods to enable faster spectrum award procedures should be investigated.
  - a quick reaction in granting temporary rights of use and amending conditions when required from relevant authorities.
  - Making available all harmonised spectrum in due time in such circumstance should be a priority in all Member States, taking into account market demand and legal predictability.
  - Analysing effects of changing consumption patterns and drawing conclusions regarding spectrum policy is necessity.

## 6.6. Audio-visual Media Policy

- The RSPG recommends/recalls that any initiatives to be taken on an EU-level encompass all the different dimensions<sup>14</sup>. The overall objective is to strike a balance to the benefit of consumers/users in all Member States.
- The RSPG supports smooth transition to new technologies and convergence of services.
- The RSPG supports technology/service neutrality to accommodate new innovative applications while ensuring the EU population free access to linear broadcasting content over different platforms, where appropriate and based on national decisions.

## 6.7. Spectrum Inventory

- The RSPG recommends that Article 9 of the current RSPP and the Commission implementing Decision on the Spectrum Inventory<sup>15</sup> should not be maintained.
- Instead of creating a burdensome collection of data in a database, the RSPG recommends that the efforts of the European Commission and Member States would be better targeted on frequency bands identified by RSPG as potential bands for wireless broadband services or other strategic applications taking into account current demand.

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<sup>14</sup> see art 7 - Decision (EU) 2017/899 of the European Parliament and of the Council of 17 May 2017 on the use of the 470-790 MHz frequency band in the Union

<sup>15</sup> Decision 2013/195/EU on defining the practical arrangements, uniform formats and a methodology in relation to the radio spectrum inventory established by Decision No 243/2012/EU of the European Parliament and of the Council establishing a multiannual radio spectrum policy programme.