

**Comments on the RSPG Draft Opinion on
the implementation of the current RSPP
21 December 2015**

The EMEA Satellite Operators Association (ESOA) has the honour of replying to the RSPG's consultation on its draft Opinion on the implementation of the current Radio Spectrum Policy Programme (RSPP) and its revision to address the next period.

ESOA is a non-profit, CEO-driven organisation established with the objective of serving and promoting the common interests of satellite operators in Europe, the Middle East and Africa (EMEA). The Association is the reference point for the satellite operators industry and today represents the interests of all EMEA satellite operators who deliver information communication services across the globe. More information about the association is available from: www.esoa.net

ESOA welcome this important consultation that comes at the critical time of the WRC-15 and respectfully provide the following comments to the RSPG.

Introduction

ESOA understands this consultation is about reviewing the first Radio Spectrum Policy Program (RSPP) which the EU adopted in 2012 and preparing the way forward for future policy programmes. In its comments to the Telecoms Review, ESOA made the following comment to the question (Question 64 on interpretation / implementation of different instruments):

The RSPP adopted in 2012 was oriented towards the need to design and harmonise enough spectrum for Mobile terrestrial services. That approach didn't take full account of all technologies and platforms available to achieve the 2020 DAE goals. Any new RSPP in the future should identify spectrum needs based on a more inclusive analysis of all EU strengths, which means a full recognition that relying on a mix of technologies to achieve the EU connectivity goals is the most efficient approach. Hybrid Broadcast – Broadband is an excellent illustration of such an approach.

ESOA strongly supports that any future European spectrum program leverages and considers the spectrum needs for all connectivity systems or platforms available from the market in order to create the technological flexibility to achieve a diverse set of internal and external EU goals. Satellite broadband, identified as a wireless solution in the Digital Agenda for Europe, is integral to the guarantee of Broadband For All in 2013; the same technology also provides digital TV directly to 85 million households and indirectly to nearly [200 million homes]. As stated by the RSPG: "One of today's political priority issues at national levels and in the EU is ubiquitous broadband connectivity." (page 36) That coverage requirement is essential and should be used as a key criterion to guide the evaluation of spectrum needs, not only with Wireless Broadband Access (WBBA) solutions. Thus, we strongly support a flexible multi-system future view versus singular technology focus as seen in the RSPG

assessment that **“the next phase of the multiannual spectrum policy program should be more a generic programme addressing the spectrum needs of various sectors and not be focused on Wireless Broadband (WBB) only”** (page 44 of the draft RSPG Opinion).

ESOA agrees with RSPG’s recommendation of continuing the approach of RSPPs (page 9) in a “streamlined and targeted” manner (page 24), as the RSPG provides important guidance for European policy choices. It is not immediately apparent what the RSPG intends by the term “streamlined” in this context, but ESOA would support that “Policy programmes should be broader than wireless broadband” (suggested at page 9) as is required by the policy of Technology Neutrality that is a well-established principle of the EU Telecoms Framework. Requirements of the entire ICT ecosystem should be taken into account and properly assessed, rather than using a singular focus on wireless broadband.

Spectrum Sharing

The draft Opinion recommends that more efficient use of spectrum should be recognized and encouraged. To this end, it is stated that spectrum sharing should be the “norm” (page 4). ESOA supports efficient use of spectrum as a principle, but advises caution as follows:

- Sharing must be “pragmatic”, as recognized in page 11. In our view, this means that sharing must be based on real, proven technical means, with proof that harmful interference will be avoided. Moreover, sharing should not freeze development of one incumbent user to the advantage of new comers, as this is contrary to established rights of use, regulatory certainty and efficient use of spectrum.
- Sharing must not undermine regulatory predictability and certainty. The draft Opinion recognizes at page 40 that “industry needs a stable regulatory and spectrum framework for long term investment in any technology.” ESOA wholeheartedly supports this assessment and urges the RSPG to take into account large fixed investment that European consumers have made in satellite equipment, as well as the enormous investments made by satellite operators themselves in deploying an infrastructure in the space.
- ESOA highlights that current sharing in the 3.4-3.8 GHz band has worked to the disadvantage of satellite services while being designed to encourage wireless broadband. Nevertheless, the draft Opinion states at page 20 that “30% of the harmonized spectrum resources are not assigned for Electronic Communications Services (ECS),” which is based on a chart which also shows that a great deal of this underutilization is in the C-band. Despite the lack of uptake by ECS in the C-band, satellite use of this band has been slowed if not stopped by the lack of regulatory certainty as well as regulatory action. ESOA stresses the need to ensure that measures to protect FSS earth stations in C-band are implemented. In the case of potential cross-border interference, an effective protection of satellite services may be obtained by taking into account the WRC-15 outcome related to the pfd limits at the border, agreed among countries which intend to deploy IMT in this band.
- The RSPG bases a lot of sharing theory on Licensed Shared Access (LSA). ESOA agrees with the RSPG that it has to be maintained as a voluntary tool in the future framework. The principle of protecting incumbent services, which is one of the drivers behind LSA, is supported. However ESOA remains doubtful whether the shared use of e.g. C-band between terrestrial Mobile and Satellite is really practical. We fear that LSA is a “foot in the door”, ultimately leading to the

removal of the incumbent service. Regulators would have to be very careful in their implementation of LSA to ensure that this is not the case.

- ESOA also notes the RSPG's belief that "Mobile operators are still deploying in frequency bands in which they have exclusive rights and may be reluctant to evolve towards a new model where incumbents have rights to be protected, until they have a shortage of spectrum." (page 32) In the same vein, it is legitimate to acknowledge that other communications systems such as satellite would better need their exclusive rights, although today, globally, only 3% is available on an exclusive basis for space/satellite services; and between 3GHz and 10GHz, no spectrum is allocated on an exclusive basis. Most commonly, allocations are shared with fixed and/or mobile terrestrial services.¹

In addition, it should be highlighted that practical experiences conducted in some bands (e.g. white spaces in the UHF, LSA in the 2.3 GHz) so far have proven that sharing can be much more complex and difficult than theoretically predicted. On this regard, ESOA is noting the following statement from the Spectrum Usage & Demand report recently released by the UK Spectrum Policy Forum:

Spectrum sharing in its many forms remains critical but unsolved: although there have been developments such as geo-location databases, the tension between flexible access for new usage, protection for incumbent usage and its foreseen expansion and the need for all to offer assured services hampers progress and a more comprehensive spectrum sharing framework may be needed.²

The European Commission has launched technology R&D projects precisely to develop future solutions that can make sharing in the future feasible and reliable. The RSPG might wish to pay close attention to the results of the ongoing and future Horizon 2020 research projects, and their subsequent demonstrators or pilots, prior to set any specific regulatory or policy rules.

Future harmonisation needs

The draft Opinion repeatedly calls for an approach of avoiding inflexible spectrum demand targets, for example at pages 5, 11, 20-21 and 36. "No new overall targets should be established."

ESOA has carefully noted the following statements: "According to the European Commission's clarification, Member States shall check whether there is market demand for the newly harmonised service. The RSPG noted that fulfilling the first obligation above ["Freeing the band..."] may not be necessary if there is no market demand and as long as the Member States does not constrain the use of services in those Member States who have harmonised their spectrum according to EC Decision." (page 26)

ESOA fully supports the view that no new targets are need for mobile broadband. Fixed quotas do not easily reflect national variations. In the case of the target for mobile broadband specifically, the 1200

¹ UK Spectrum Policy Forum, *UK Spectrum Usage & Demand: Second Edition* (Dec. 2015) available at <http://www.techuk.org/insights/reports/item/6825-uk-spectrum-usage-demand-second-edition>

² Ditto

MHz target set in the current RSPG appears to have been met while the actual use of many of the targeted bands remains low.

Finally, ESOA supports the recommendation from the RSPG that there is a need for a common deadline for implementation of European technical harmonization (page 25). Divergent interpretations of the regulatory framework have been allowed to proliferate under the current regulatory framework, imposing unnecessary bureaucratic costs on our business, and undermining the overarching EU policy objective of creating a single market for electronic communications.

5G Spectrum Needs

ESOA looks forward to the RSGP preparation of an Opinion on bands suitable for 5G above 6 GHz. We support the following aspects already indicated for 5G in this Opinion:

- “Already harmonized spectrum [should be] reused to support the transition towards 5G” (page 41): It should be European policy that endless amounts of spectrum cannot be allocated for wireless broadband purposes without transitional efforts to use what the industry already has.
- Reliable forecasts are “hard to find” (page 36): it is our experience that most forecasts of wireless broadband requirements are, in fact, not reliable. The Opinion notes “diverging views” on forecasts of future spectrum needs for mobile data traffic. It states at page 7 that specific frequency bands for wireless broadband or other uses should be identified “taking into account current demand.” This emphasis on current demand is repeated at pages 12 and 51. ESOA supports this approach, especially as it avoids basing important policy decisions on necessarily unreliable forecasts.
- The RSPG and future Opinions should take into account WRC-15 results: a range of spectrum bands above 6 GHz have been identified for study through the ITU-R process. Worldwide compromise recognized a “win-win” approach of focusing mainly on bands above 31 GHz for 5G future development, in order to avoid conflict with established usages. The RSPG and future Opinions should not be used as a pretext for reopening this debate so soon after the issues were decided globally and before ITU studies are well underway. This is particularly critical when “The European Commission, taking due account of the RSPG Opinion [on policy objectives on 5G for WRC-19], may consider issuing a mandate to CEPT for some frequency bands where 5G may be introduced in Europe”.
- In addition to this, sharing feasibility should be ensured not only with incumbent services, but also without constraining future growth of other services in higher frequency bands. In this sense, a number of frequency bands allocated to the Fixed Satellite Services (FSS) above 31 GHz have been identified for studies at ITU, especially some identified for High Density FSS, where satellite services could start providing services in the near future.

International context

A fundamental reason of taking the ITU-RR and the WRC-15 results fully into account is very well stated in the draft Opinion:

“In its Opinion on “Wireless Broadband”, the RSPG reported that Broadband via satellites is a solution that economically covers entire regions irrespective of their topography. It is thus a means towards achieving 100% geographical coverage including those areas that are remote or sparsely populated where there is no business case for other technologies. The RSPG opinion highlighted that Europe benefits from harmonized resources for broadband via satellite responding to the demands. As mentioned in the RSPG report on sectoral needs, the ITU process is used for the satellite sector due to its ITU regional and worldwide footprint.” (page 43)

This statement should not be used as an excuse not to take account of satellite spectrum needs but as a duty to care about the ITU action plan, according to WRC results.

While we agree that that satellite bands are in most cases well defined and harmonised internationally by the ITU Radio Regulations, most satellite bands are also allocated to fixed and mobile services. Therefore administrations have some scope to deploy other services in the same bands, including terrestrial services which are not compatible with satellite use on a national basis.

Decisions taken within Europe, particularly those intended to harmonise spectrum for terrestrial applications, have the potential to have a damaging impact on satellite services. Consequently, even if European harmonisation measures for satellite services are not required, ESOA emphasises the necessity to consider the needs for satellite services both in Europe and worldwide in the context of harmonisation measures for other services.

As an illustration of the need to take the ITU process fully into account, WRC-15 has identified further spectrum studies to be conducted. The next CPG of the CEPT is to organize the conducting and management of these studies for a territory that covers [48] European countries, including the 28 EU Member States.

WRC-15 has notably agreed on a new AI 1.16 related to WAS/RLAN, in the frequency bands between 5150 MHz and 5925 MHz. These studies will cover the whole frequency range of 775 MHz which includes the already used bands for RLANS and as well as the bands which are currently studied according to an EC Mandate on 5 GHz.

Considering the broader and larger ITU mandate, ESOA believes that the RSCoM Mandate to CEPT to study and identify harmonised compatibility and sharing conditions for Wireless Access Systems including Radio Local Area Networks in the bands 5350-5470 MHz and 5725-5925 MHz ('WAS/RLAN extension bands') for the provision of wireless broadband services is not needed anymore and would propose to remove it.

Additional points on spectrum awards

The question of making spectrum actually available is a critical issue. Although it is not specifically covered by this draft Opinion (“The RSPG is considering in other RSPG reports the issue of under-utilisation of spectrum”), ESOA is extremely concerned about the way to handle coexistence issues in the future.

As stated in our responses to the consultation on the EU Telecoms Review (Response to Question 17 on regulatory obstacles constraining wireless technologies from fully contributing to connectivity):

It is essential not to exclude any technology or platform in our research to high-speed connectivity to all. ESOA welcomes approaches that specifically include satellite infrastructure as a part of the solution. ESOA also urges the EU Commission to consider “coexistence” amongst wireless systems (e.g. between satellite and terrestrial mobile) as a fundamental issue that needs to be managed carefully.

ESOA cannot subscribe to the view that C band is an example of coexistence between satellite and mobile broadband systems, as repeatedly stated in the draft Opinion (“the designation of the band is non-exclusive provided that sharing is possible between the harmonised applications and other uses of the band. This has been explicitly recognised in the C band (3.4-3.8 GHz) where satellite earth stations will coexist with Wireless Broadband systems (see Decision 2014/276/EU amending the Decision 2008/411/EC)” – page 26, or “to ensure coexistence between services either operating in adjacent bands or in the same bands, Member States shall develop additional coexistence solutions in the frequency bands 3.6-3.8 GHz” - page 29).

ESOA respectfully reminds the RSPG that out-of-band as well as in-band emissions can have strong adverse effects in these frequencies, as extensively studied by the ITU and the CEPT. The most recent ITU-R Report S.2368 states that “[s]haring studies between International Mobile Telecommunication-Advanced systems and geostationary satellite networks in the fixed-satellite service in the 3 400-4 200 MHz and 4 500-4 800 MHz frequency bands in the WRC study cycle leading to WRC-15” have again concluded that Fixed Satellite and IMT are not compatible. Several instances of interference occurring in the C Band, in different parts of the world where the band was effectively used by the IMT industry, illustrate this phenomenon. There has been little use of C-band for wireless broadband in Europe so far, which may give the impression of a positive sharing situation.

ESOA has explicitly advocated at European level and responded to many national consultations all over the EU in repeating how and why all ITU and CEPT studies have demonstrated the lack of viability between Mobile and Satellite in the C band. For more information on the subject, please refer to: <https://gvf.org/index.php/all-you-need-to-know-about-c-band-satcoms>

ESOA finally supports the overarching RSPG statement that consistency in terms of approach across member states is desirable (para 3.1 of page 17: “Member States cooperate with each other and with the Commission in a transparent manner, in order to ensure the consistent application of the general regulatory principles across the Union and policy objectives”) as it is providing regulatory certainty without stifling innovation or dis-incentivizing investment with overly bureaucratic approaches.

In looking at how to make the most efficient use of spectrum resources, we ask the RSPG to take account of the difficulties presented by the remaining divergence amongst national regulatory authorization schemes specifically to pan-EU operators that need to deal with all Member States together (a point also raised in ESOA’s response to the consultation on the EU Telecom Review).