



European Satellite Operators Association response to Ofcom consultation document:

**“(Draft) RSPG Opinion on a long-term strategy on the future use of the UHF band
(470-790 MHz) in the European Union”**

12 January 2015

Introduction

ESOA is pleased to provide comments to the RSPG in response to the public consultation process for the (Draft) RSPG Opinion on a long-term strategy on the future use of the UHF band

(470-790 MHz) in the European Union.”

ESOA is a non-profit European organisation established with the objective of serving and promoting the common interests of European satellite operators. The Association is the reference point for the European satellite operators industry and today represents the interests of 25 members including satellite operators who deliver information communication services across the globe as well as European space industry stakeholders and insurance brokers.

Although ESOA members do not have operations using UHF spectrum, several key points raised in the text of the document in relation to the audiovisual sector and mobile spectrum demand are relevant to our sector. We therefore propose the following comments.

Kind regards

A handwritten signature in blue ink, appearing to read 'Aarti Holla-Maini', is positioned above the printed name.

Aarti Holla-Maini
Secretary General
ESOA

ESOA Comments to the draft RSPG Opinion on UHF

12 January 2015

Background

The draft Opinion states (section 2, page 4):

“several Member States are planning an increase in the number of [TV] programmes, an expansion of HDTV, additional mobility and the possible introduction of Ultra High Definition TV. Possible forms of convergence between various forms of content delivery (wireless broadband and broadcast) are currently being explored.”

It is important to remind that satellite has proven to be the most innovative, spectrum and cost-efficient infrastructure to address broadcasting and ubiquity needs for the delivery of audiovisual services in Europe for decades.

When it comes to broadcasting, satellite is a unique platform delivering (i) the largest variety (ii) the highest quality (iii) maximum reach (100% coverage & already delivering TV & radio to more than 50% of European TV households directly and even more indirectly when including cable feeds) and (iv) ultimate efficiency (in terms of cost and spectrum). This is a massive differentiator which is **very relevant** as the ultimate goal of convergence must be a great user experience which demands variety, quality, reach and low cost.

With tens of satellites operating in C and Ku band frequencies from several orbital positions, ESOA members enable the provision of several 1,000s TV and radio channels in Europe, to more than 150 million households. This is done by a pan-European coverage beyond the limits of the European Union, from Northern Africa to Eastern Russia.

More than half the TV homes in Europe therefore receive TV by satellite. Satellite is the most widespread transport infrastructure for TV broadcasting in Europe, having overtaken terrestrial.

More than 70 million homes receive satellite directly with an individual dish (Direct-to-Home DTH). More than 80 million homes are served through other forms of video content delivery, via other platforms such as in satellite feeding into DTC (Direct-To-Cable) or to IPTV and DTT (e.g. FreeSat in the UK). In other words, **a very substantial part of cable and terrestrial television relies on audiovisual content made available from satellite contributions.**

It is also to be highlighted that both Free TV and Pay TV are driving satellite growth: digital channels are received in more than 40 million Free TV homes and more than 40 million Pay TV homes.

Finally, satellite in Europe is pioneering Ultra HD TV as it did with HD TV ten years ago. HD in Europe already increased from 29 at year-end 2011 to 35 million satellite homes at year-end 2012, representing a growth of 18%, and making satellite the most popular HD platform. Since 2013, satellite operators have started transmitting content in Ultra High-Definition (otherwise known as 4K) to carry the Ultra HD content that continues to be developed by major studios, sport leagues, Amazon, Netflix and others.

Ultimately, satellite is expected to play a fundamental role in conjunction with other technologies, in so-called “hybrid” solutions. Despite the fantastic user-experience that is to be brought by Ultra HD, it also brings a greater burden on distribution networks. In order to sustain the increased data volume demand, it will be essential to count and rely on the most efficient communication networks, such as satellite for the broadcasting of media rich content.

EU regulatory framework and definitions

The draft opinion adequately reminds (section 2.1, pages 5-6):

“Article 7 of the Radio Spectrum Policy Programme (RSPP) states that in order to support the further development of innovative audiovisual media and other services to Union citizens, taking into account the economic and social benefits of a digital single market, Member States shall, in cooperation with the Commission, aim at ensuring there is sufficient spectrum available for satellite and terrestrial provision of such services, if the need is clearly substantiated.”

Satellite needs certainty in accessing radio spectrum, and ESOA is insisting that access to this spectrum is not endangered by undue priority given to other wireless technologies, in line with this Article 7 of the Radio Spectrum Policy Programme.

Let’s not forget that broadcasters rely on assured access to frequencies when committing into long-term contracts. Stability and insurance of service is vital for the satellite industry and the millions of TV homes being served either directly via satellite or indirectly via retransmission of satellite TV signals in cable or IP networks.

Preserving existing satellite spectrum is needed for all forms of video content delivery, whether directly to consumers in DTH (Direct-To-Home) or to bring content to other platforms such as feeding in DTC (Direct-To-Cable) or for hybrid platforms with DTT (including TNTSat or FRANSAT in France, FreeSat in the UK, Tivu Sat in Italy). This access, including to ensure contribution links to DTT, should not be endangered by the priority given to terrestrial wireless broadband.

Overview in EU Member States

Unsurprisingly, the document expresses that “Most of the administrations have stressed the importance of the DTT platform for delivering free-to-air television, notably for Public Service Broadcasting (PSB) content.”

Although the document acknowledges that other TV platforms also deliver FTA content (“Free television services as well as subscription based services are also delivered via cable and satellite platforms”), it just doesn’t provide any detail.

Virtually every satellite DTH platform in Europe, if not all, carries PSB content, because of market demand. Both Free TV and Pay TV are driving satellite growth: digital channels are received in more than 40 million Free TV homes and more than 40 million Pay TV homes.

A recent survey conducted by the EU Communications Committee (COCOM) highlights the following:¹

- In many countries (CZ, DK, HR, IT, LV, LT, LU, HU, NL, PL, RO, SI), there is (almost) complete simultaneous satellite transmission of the DTT channels. (And one could add BE to these).

¹ Questionnaire to member states on digital broadcasting, COCOM 13-11 FINAL, 8 January 2014

- Several other countries (ES, IE, IT, PT, FI, SE) use satellite transmission as a complementary service in areas which are not covered by the DTT signal. (And one should add UK, FR and DE to these).

Other platforms

Further, the draft Opinion addresses particular issues related to other platforms. One relates to content control concerns in the case of satellite (section 4.1.3, page 10):

*“The satellite broadcasting platform uses radio spectrum. Access requires an aerial to be installed. For subscription based services a separate contract is needed. Commercial satellites are located in the outer space, which *“is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means”*, according to the Outer Space Treaty. Regulators and Members States have limited power to set obligations (i.e., content obligations) other than the ones derived from ITU-R technical frequency coordination rules and EU acquis.”*

ESOA respectfully reminds that satellite platform and operation activities related to network, uplink, multiplexing, etc. are *all* regulated in one European country or another: there’s at least one country (e.g. Luxembourg or France) for the satellite capacity, plus there are several countries where multiplexing and uplinks do take place, which are often the countries where the broadcasters are established. This logic is precisely based on the 2009 EU regulatory framework on electronic communications that regulates this network type of activities. Additionally, all main broadcasters which TV programmes are received by satellite within the EU depend on the jurisdiction of at least one EU member state, as regulated by the 2007 Audiovisual Media Service Directive.

Addressing capacity demand

Interestingly, the draft Opinion highlights the following point (section 4.1.3, page 10):

“At varying pace among Member States, households in Europe increasingly enjoy access to broadband with high bandwidth. The targets set out in the Digital Agenda for Europe aim at providing the sufficient digital infrastructure in order to take advantage of the new digital possibilities and offers by 2020 (...) The addition of broadband to the above mentioned platforms could enable the development of new kind of bi-directional services facilitating both broadcasters and third parties initiatives and innovation as well as widen the consumer choice and capabilities to interact compared to traditional one-directional broadcasting.”

ESOA indeed believes that, since satellite has a unique ability to broadcast audiovisual services from one single point to everywhere, it can be used to deliver high quality content to network edges in combination with other wireless or wireline technologies. This is relevant whether for linear services, which still represents the bulk of TV consumption, or for non-linear services (e.g. by pushing content to enable a near-VOD type experience).

But a more fundamental question lies with the necessity to address consumer demand for plural and affordable video services in an era of unprecedented traffic growth. The emergence of new video applications and services such as ultra-high quality video (Ultra HD) will drive user demand for more data anytime, anywhere, and on any device – and this requires appropriate network capacity (bandwidth).

To this end, the ultimate user experience ought to be delivered within the constraints of **cost and spectrum efficiency**. This is a matter of fact and necessity and supports the following statement: satellite has a unique ability to broadcast / multicast audiovisual services from one single point to everywhere. It can therefore be used to deliver high quality content to network edges.

When data needs to be distributed simultaneously to multiple users, for instance, it can be necessary to use different channels (i.e. different transponders) over the same frequency bands (spectrum re-use); in this case satellite communications provide a very efficient use of spectrum.

It is ESOA's conviction that, in order to meet tomorrow's bandwidth or accessibility challenge, there is **a need to look at how to make best and combined use of existing infrastructures that have already proven to be highly efficient** (in an appropriate "mix of infrastructures").

A recent debate held in the European Parliament in the presence of the European Commission, at the initiative of ESOA and the EBU, has already led to the conclusion that the next generation Ultra HD digital era requires solutions that integrate satellite technologies. More generally, hybrid solutions combining satellite and terrestrial technologies are needed to delivering the best video experience to all users in Europe.

"Video delivery in particular requires several Zettabytes of data per year to reach users over the globe. To ensure an affordable, quality user experience and not one of frustration, experts in Europe warn that the EU needs to adopt a policy approach that is holistic and that pulls on the strengths of each transport and access technology", said the press release.²

Spectrum Needs for WBB

As another important point, the draft Opinion persists in highlighting spectrum needs to cope with mobile data growth based on sources that have been largely disputed.

The text underlines (section 7.2.2, page 21):

"It is predicted that a significant growth in mobile data will take place in next few years as explained in the RSPG Report on "Spectrum for Wireless Broadband and Broadcasting in the Frequency Range 400 MHz to 6 GHz". Further details on these forecasts for the mobile traffic growth is addressed in Report ITU-R M.2243. As a consequence, in order to meet those needs, additional spectrum has to be made available. The ITU-R (ITU-R Report M.2290) has estimated the global spectrum requirements for IMT to be in the range of 1 340 MHz to 1 960 MHz in the year 2020."

ESOA can only repeat that the spectrum demand resulting from these ITU estimates are grossly exaggerated. **As extensively demonstrated and publicised for months, the inputs to the ITU model are fundamentally flawed**, in that it uses a series of inputs which are orders of magnitude (factors of 10 or in some cases 100 times) different from real world values. Some of these values, in particular **population density** and **data traffic density**, are demonstrably excessive and are apparently based on the highest possible population densities experienced anywhere in the world. In addition, other factors such as **spectrum efficiency** are also based on unrealistic assumptions.

While it is clear that there is high growth in mobile data consumption that will likely persist for several years, that does not equate to a need for *more spectrum* for wireless broadband. There are several factors which can be used to accommodate expected mobile data growth. These include:

- Technology improvements - for example from the use of LTE equipment.
- Improvements in network architecture – for example increasing the density of base stations and the use of small cells.

² The full press release dated 20 November 2014 is attached as an annex. See also ESOA's opinion expressed in Euractiv on 27 November 2014 at: www.euractiv.com/sections/infosociety/europe-risk-broadband-congestion-310369

- Use of bands currently identified for IMT/mobile broadband, but not yet brought into use.
- Increased use of WiFi (and other unlicensed use) and additional technologies (e.g. satellite multicasting) for data off-loading.

Several industry voices, including ESOA and EBU, as well as highly respected academic sources have analysed and seriously questioned the mobile spectrum demand resulting from the projections made on this respect. To quote one of them: “Our findings suggest the mobile industry contains much higher levels of inherent demand uncertainty than is commonly estimated and that business and governments may not be fully factoring it into their policy decisions.”³

The EU Commission in its Inventory Report in September 2014 cautiously considered that no more spectrum for mobile was needed at this stage – evaluating the level of under-utilised spectrum for mobile broadband to be approximately 30%.⁴

UK Ofcom itself, often cited as a reference source of data on mobile communications, identified a significant error in the modelling of the UK mobile spectrum demand, reducing the assumed values for the traffic density by a factor of 1000. Thus, the UK spectrum demand estimates, which are sometimes used to support the results in ITU-R Report M.2290, can no longer be considered credible.

ESOA considers it highly prejudicial that the RSPG continues to exercise undue pressure on all wireless industries in Europe (including satellite) in referring to a spectrum demand for wireless broadband that is simply not justified. We would welcome a recognition from the RSPG that this matter has to be treated carefully.

³ From Overestimating Wireless Demand: Policy and Investment Implications of Upward Bias in Mobile Data Forecasts, at: papers.ssrn.com/sol3/papers.cfm?abstract_id=2418364

⁴ See COM(2014)0536