Barcelona 2022-08-11

Response on the RADIO SPECTRUM POLICY GROUP DRAFT Opinion on the ITU-R World Radiocommunication Conference 2023 from Cellnex Telecom

Cellnex Telecom[1] (Cellnex) welcomes the opportunity to share its views on the *Radio Spectrum Policy Group DRAFT Opinion on the ITU-R World Radiocommunication Conference 2023* and wants to express its full availability to collaborate and discuss with RSPG on all related issues.

Cellnex welcomes the fact that the draft RSPG opinion insists that the EU position on WRC23 AI 1.5 should be compliant with the UHF Decision providing priority to broadcasting and PMSE usage until at least 2030. Our view is that the best and only option for Europe at WRC23 is a NO CHANGE position and to not revisit the topic until WRC-31 at earliest.

Regarding the RSPG's Opinion on WRC-23 AI 1.5, as Cellnex, we would like to express our views:

- The first option considered by RSPG is No Change at WRC-23 with a possible new agenda item at WRC-27 or WRC-31:
  - Cellnex welcomes a 'No Change' decision, as this option would avoid serious impacts on the European audiovisual industry and the significant social and cultural benefits it delivers for citizens.
  - Cellnex considers that discussing the Region 1 allocation of 470-694 MHz band again at WRC-27 would not provide enough certainty for industry to foster investment and innovation in DTT networks over the next five years. In contrast, revisiting this agenda item in 2031 or later, would be more compatible with investment plans and innovation agenda. The **innovation agenda** includes the development of new technologies such as 5G Broadcast, the increase of the quality with UHD (including 4K, HDR, HFR, WGC, etc.) and the introduction of new hybrid services, such as LovesTV in Spain. Like all industries, broadcast needs a period of stability and certainty to allow development and innovation.
- The second option considered by the RSPG is a co-primary decision taken at WRC-23 but effective at a later stage:
  - Cellnex strongly opposes this proposal. A change to co-primary would create an existential threat to the remaining spectrum available to deliver terrestrial broadcasting services and Programme Making and Special Events (PMSE). This concern is shared across a wide range of companies, associations, and NGOs in the broadcasting, cultural and creative industries sectors including the workers and end users trade associations.
  - Whether the timing of that threat is differed, or not, does not change the nature of the threat. Indeed, if speaking of long-term certainty, a differed decision will have the same impact on the terrestrial broadcasting services, PMSE and the whole European Audiovisual industry; the investment plans and innovation agenda will suffer from an uncertain environment.
  - Moreover, once a co-primary decision would be applicable to all countries in Region 1, it would supersede the part of Article 4 in the UHF Decision, stating that new services can be introduced solely on a secondary basis with respect to broadcasting.
  - Cellnex thinks this would in practice end the coordinated approach in the EU on the use of the 470-694 MHz band, which is a key tenet agreed in the UHF Decision.

Considering the above, the best option to secure Spanish and European citizens interests is to establish 'NO CHANGE' as a European Common Position regarding the AI 1.5 at WRC23 and onwards.

[1] Cellnex Telecom is an independent infrastructure operator with the goal to create an efficient, neutral, quality telecommunications platform with innovative management to drive digitalisation in Europe.

General comments

In Spain the terrestrial broadcasting, the DTT, is the universal free to air television service that informs, entertains, educates and unites the society. It represents more than 70% of television consumption and is the only technological solution that meets the general interest service requirements, including the provision of public service. DTT does not discriminate against citizens for social, geographic or age reasons, being the most inclusive and sustainable way of distributing audiovisual content. It is also the most robust in case of an emergency situation providing a communication channel with citizenship in any circumstance. In Spain, more than 99% of the households have access to DTT.

According to Digital Economy and Society Index (DESI) data "*Spain is one of the EU's top performers on digital connectivity, ranking 3rd among the EU Member States. Spain performs particularly well in fixed very high capacity network (VHCN) coverage (94% compared to an EU average of 70%)*". So, the DTT penetration is not linked to a lack of alternative, it is a citizens choice. A choice that regulation should respect; a choice driven by a highly competitive audiovisual market where coexistence and complementarity between audiovisual players is something that Spaniards appreciate and defend.

Indeed, citizens choice is related to a diversified and productive Spanish (and European) audiovisual industry, a talented sector with a large territorial presence in Spain. The Spanish audiovisual market is highly competitive including a large number of players ranging from large global technology companies (the vast majority of which are non-European) to small hyperlocal organisations. All of them compete in the audiovisual market and on the public screen, some with large global productions and others with authentic *works of gold* and local content. And all the models compete, each one with their resources, each one with their talent.

Also European broadcasters, the ones holding a license, are obliged to compete with these global players and, at the same time, comply with the commitments derived from their audiovisual licenses in terms of local production and/or content of general interest, for example. A co-primary declaration would further complicate the complex task of competing in this market.

The Audiovisual industry and the creative and cultural sector benefit from DTT strength and, hence, its spectrum access. Any change to the spectrum regulation would impact all audiovisual, creative and cultural sector. In a society where audiovisual is a key tool to communicate, when the competition from American big players is massive, preserving our European and Spanish audiovisual, cultural and creative sovereignty shall be a top priority for policy makers.

So, before taking any regulatory decision regarding the AI1.5 of WRC-23, with the massive implications that it may have, a cost-benefit analysis should be done; an analysis taking into account the cost for Europe and Spain as a society, including its culture and idiosyncrasy. Any decision cannot be taken before such an analysis. So, WRC-23 is too early to take any decision.

In our view, there is no evidence to demonstrate that Spain and European citizens will receive any incremental value with a co-primary allocation. On the opposite, there are clear risks that a co-primary allocation would undermine the European audiovisual industries that provide critical services to citizens today.

We are sure that Spanish and European policy makers and regulators will not take decisions that will reduce the freedom of choice of citizens and damage the strategic audiovisual, cultural and creative sector, based on unproven technicalities such as a supposed increase of spectrum efficiency, an unsubstantiated "*flexibility*" concept and an undemonstrated spectrum demand.

Considering the above, Cellnex view is that the best option to secure Spanish and European citizens interests is to establish 'NO CHANGE' as a European Common Position regarding the AI 1.5 at WRC23 and onwards.

Additional and complementary reasons for NO CHANGE at AI 1.5 WRC-23.

1) **There is no demonstrated / substantiated demand for co-primary in Spain and in Europe.**

Europe and Spain have the 900, 800 and 700MHz bands on the sub 1GHz spectrum available and ready for mobile and wireless broadband. According to DESI data, in Spain, 96.2% of households have a more than 30Mbps broadband coverage, 93.8% more than 100Mbps and 92.5% more than 1Gbps. In this scenario, the added value and eventual coverage/capacity increase that an additional 600MHz layer (or full sub700MHz band) would provide is, at least, questionable. Indeed, the assumption that using 600MHz (or full sub700MHz) band for wireless broadband on a post 2030 scenario would provide value for the Spanish society (even for the European) has never been substantiated.

When addressing the Digital Divide and solving rural coverage/capacity issues, Cellnex is convinced that, alongside a more intelligent / efficient use of the current allocated bands including a better use of the 900MHz, **the solution is the infrastructure investment and infrastructure sharing**.

At this regard, we welcome the Spain plan to overcome the Digital Divide still existing in Spain and to reach the national connectivity goals, including an ambitious plan for infrastructure roll out to fulfil eventual coverage holes. These unserved areas will not be reached by adding more and more spectrum, the solution is the investment on infrastructure. Once the infrastructures would be deployed, all areas in Spain will have access to a very high capacity network.

The fact that other service providers are claiming access to the sub700MHz band such as PPDR or military bodies is in line with the, at least, questionability of the supposed value of the 600MHz band for wireless broadband.

For PPDR, worthy to say that there is no a sector agreement nor studies at CEPT or ITU level sustaining any additional spectrum need. Also, according to European regulation and its 700MHz implementation Decision, the Spanish Administration already did its homework and allocated spectrum for the roll out of the broadband PPDR services (2x13MHz). So, in Spain the PPDR bodies have already started to work on the future services definition and the networks engineering to have its broadband services deployed as soon as possible without waiting until, at least, a post 2030 scenario. Eventual military services envisaged on the sub700MHz band would be deployed on a secondary basis as the current flexible use of the band would allow it.

In conclusion, for the Spanish society, the incremental value of a co-primary allocation on the AI1.5 of WRC-23 is not demonstrated. On the opposite, with an eventual impact on the current DTT services, citizens will lose value.

2) **Current regulatory framework of 470-694MHz, under GE06 and UHF Decision, is the most intelligent and flexible use of the band.**

The 470-694MHz band, under its current regulatory framework, is efficiently shared among several services such as DTT, PMSE, wind profile radars, radio astronomy, white space devices and others.

In Spain, **DTT networks make an intelligent and optimum use of the spectrum**. The network is built on SFN's by areas, minimising the spectrum needs while allowing content differentiation and minimising the impact for citizens. This configuration fulfils two of the key challenges for spectrum policy managers; spectrum sharing and flexibility. Also, as demonstrated for many years, content production industry (professional and amateur) is working alongside the DTT distribution with no problems.

Studies, but also real cases such as 700 and 800MHz band clearance, have demonstrated that the coexistence between mobile and broadcast is, at least, quite a challenge. The impact on the other services have not been assessed but, for instance, for content production, need to be considered that PMSE use is growing as audiovisual industry is producing more and more content but there is no agreed alternative spectrum to meet its needs. So, a co-primary allocation would put at risk the current spectrum sharing and flexibility and several services will be affected, services which do not have alternative. Hence, from this point of view, **co-primary will mean less flexibility**.

The current regulatory framework on its Article 4 of the UHF Decision, already provides some "*additional flexibility*" on the use of the band allowing "*other use of the sub-700 MHz frequency band*" compatible "*with the national broadcasting needs*" and without causing "*harmful interference to, or claim protection from, the terrestrial provision of broadcasting services in a neighbouring Member State*".

Cellnex is more than interested on exploring such a concept[2]. One possible way forward to explore such an "additional flexibility" would be the development of "downlink-only" services on the sub700MHz band. To develop such services there would not be any need to change the current regulatory framework (GE06, UHF Decision and 470-694MHz allocation). This would lead to an "additional flexibility" scenario increasing the spectrum usage and the number of different services provided instead of an eviction scenario where mobile would substitute all other services; an "additional flexibility" scenario with viability for all services, not causing harmful damage nor meaning eviction of current services.

In conclusion, for the Spanish society, a co-primary allocation will reduce the current shared use and flexibility on the band.

3) Terrestrial broadcasting provides unique public value to Spanish and European society.

Spaniards have chosen to enjoy from a rich, diversified and competitive audiovisual landscape including OTT and IPTV platforms alongside of the DTT services. Spaniards enjoy watching on demand content, social networks or whatever other content using its broadband connection, either fibre plus Wi-Fi or wireless, before, during and/or after watching, for instance, local live news through DTT. People is multitasking and use different sources and platforms.

At present and for the foreseeable future there is no viable alternative to broadcasting for delivering audio-visual content to mass audiences with near universal coverage, free to air and guaranteed public service media prominence. Broadcasting and DTT plays a strong role as a platform serving the main TV set, either exclusively or in combination with other platforms and the total DTT penetration is even higher as it is also used on secondary TV sets and in second homes.

Terrestrial broadcasting provides also technical resilience for national sovereignty and redundancy in reaching the population in times of crisis. During crisis situations as Covid or some natural disasters, DTT and FM radio have proven to be resilient platforms to reach citizens and to keep them communicated.

From the point of view of cybersecurity, terrestrial broadcasting provides an extra degree of security as it is quite complicated to be hacked and keeps the anonymity of its users.

Worthy also to mention that DTT is the 'greenest' form of audio-visual delivery[3]. It consumes 8 times less energy than internet streaming (OTT mode) and 11 times less than managed IPTV.

But not only the distribution would be at risk on a co-primary scenario, also the production. Indeed, the content creation and production wireless services are essential not only for the professional production of audiovisual content for television and radio, they are also key for cultural, sports, artistic, political, religious, educational and civil society organizations. These agents have a prominent role in society and are part of people's lives. In addition, many of them generate important benefits not only cultural and social, but also economic. PMSE audiovisual production equipment allows operational flexibility with reduced production costs. The increase in audiovisual productions and their increasing complexity has given rise to a growing demand for spectrum, especially in the production of large events and happenings.

[2] Cellnex is not aware of industry studies or developments sustaining specific use cases or technical solution improving such "*additional flexibility*". The only developments seen point to additional services which imply the eviction of current services.
[3] The LoCaT Project is a collaborative initiative from a few leading European players of the TV, Broadcast and Streaming industry who have commissioned Carnstone to assess the environmental carbon emission impacts of various TV delivery methods across the EU 27 and UK. Presentation of the study and the results are available at thelocatproject.org

Only with the flexibility and efficiency of the current regulatory framework for the sub700 band is it possible for services to coexist and collaborate. Without this flexibility, in a possible scenario of reduction of the available bandwidth, the production of events could be compromised due to lack of bandwidth to operate. An eventual mobile allocation of the sub700MHz (or parts of) will put at risk the value of the content distribution (broadcasting) and production (PMSE) in exchange of unproven benefits.

In conclusion, for the Spanish society, a co-primary allocation would dramatically reduce the social value of the band for citizens.

4) **European audiovisual industry has an INNOVATION AGENDA that requires the long term access to the full 470-694MHz.**

The Spanish and European audiovisual industry are investing and innovating continuously. Critical mass is important in terms of innovation. Due to this, an European approach needs to be taken to ensure the required "*muscle*" and to reach the economies of scale. In this sense, also countries with no DTT or low penetration will benefit of this innovation track and, at the end of the day, of the current spectrum allocation.

Find below some examples of the innovation:

a. Innovation to increase the quality of the terrestrial broadcasting services:
   i. HD services are a *de facto* standard quality in almost all Member states. In Spain there is a plan to switch off the SD emission soon.
   ii. UHD services are being trailed on DTT. In Spain, half of the population can already receive free UHD services.
   It is worth noting that terrestrial UHD services differ from most of the "4k internet" contents. Professional UHD emissions using DTT provide not only higher spatial resolution by using 4K, they also provide higher colour resolution using WCG, higher temporal resolution using HFR, higher brightness resolution using HDR and better and immersive sound.
   The collective work of the European Audiovisual industry in the standardisation of the UHD and other quality standards in Europe also allows the economies of scale for the TV manufacturers.
   iii. The European Audiovisual industry is also working on the evolution of the UHD towards UHD2 and other quality standards on a more than 10 years horizon.
   iv. Solutions such as AR/VR, 360º, WEB3 or NFT are promising applications that the industry is exploring.

b. Innovation to maximise the benefit of the collaboration between broadcast and broadband:
   i. Hybrid broadcast broadband TV (HbbTV) is a global initiative dedicated to providing open standards for the delivery of advanced interactive TV services through broadcast and broadband networks for connected TV sets and set-top boxes.
   ii. Plenty of European Broadcasters have developed their own HbbTV applications. Find more info on the HbbTV webpage.
   iii. In Spain, LovesTV is a free TV platform promoted by RTVE, Atresmedia, and Mediaset España that users can access directly from DTT without having to download additional apps and letting them access to an on demand content ecosystem. So far, more than 11M of compatible TV sets have been sold accounting with about 1M of unique users per month.

c. Innovation to towards mobility and new devices:
   i. Broadcasters have been investing lots of resources and efforts in technology (5G Broadcasting) that would allow them to reach mobile devices such as smartphones or cars without asking for more spectrum. This innovation would benefit from the flexibility provided by the current spectrum framework and

would increase even more the already highly efficient and intelligent use of the 470-694MHz. A co-primary decision at WRC-23 would stop such European innovative track record.

ii. 5G Broadcasting (5G BC) is a broadcasting standard based on 3GPP technology that would allow broadcasters to complement their current networks by providing the ability to reach mobile devices.

iii. 5G BC also opens the door to innovation on the production side with permanent connected cameras and/or cloud multicamera production solutions. All usages relying on the already allocated spectrum.

iv. European audiovisual industry is investing on testing the technology and exploring the future applications of 5G BC[4].

v. In Spain several 5GBC trials have been done. The latest one happened during the Mobile World Congress in Barcelona 2022, where RTVE, Rohde & Schwarz, and Cellnex joined forces to show the first 5GBC device in the world.

d. Innovation to provide the state of the art of the professional services to citizens.

i. European Broadcasters and mainly Public Media Service providers are investing in the TV sets of the future, wireless TV sets using the latest technologies. Also in in artificial intelligence applied to professional content to provide better local information, news alert systems, control against fake news and verification tools, automatic videoclip production, text drafting or voice synthetising among others.

In conclusion, for the Spanish society and the European and Spanish audiovisual, creative and cultural sector, a co-primary allocation would strongly damage or even stop the European audiovisual innovation agenda.

[4] See https://www.5g-mag.com/trials for information on the trials.