



**SEINEP response to RSPG23-045 FINAL  
Radio Spectrum Policy group  
Work Programme for 2024 and beyond**

SEINEP is a trade union representing professional electronics manufacturers and importers in France. Our members include manufacturers of electronics dedicated to the creative and audiovisual industries as well as medical imaging and metrology equipments. We have been particularly active in the radio spectrum area in order to help inform policy-makers in France and Europe as regards the needs of professional equipment to access sufficient spectrum to serve the needs of the end users. SEINEP is also a member of APWPT.

We would like to thank the Radio Spectrum Policy Group for this opportunity to provide our feedback on the proposed Work Program for the years 2024 and beyond.

The following answers will focus on the future use of the sub-700 Mhz, especially as regards the needs of PMSE systems. Such equipments are vital to support the creative industries as a whole (live performances, touring, TV & cinema production, live sports broadcasting...) and as such are the cornerstone of a multi-billion added-value in Europe.

**Fostering the creative and live-production industries in line with broader EU objectives**

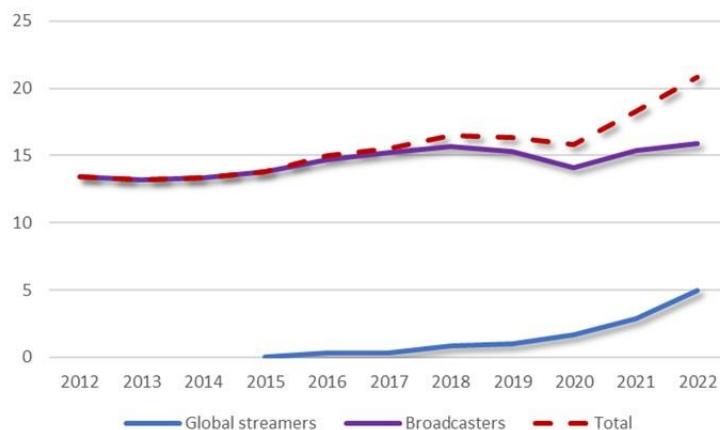
*As a consequence, we commend the opinion that “RSPG should also collect lessons from early initiatives from Member States introducing other usages than broadcasting to address audio PMSE long term developments in order to preserve sufficient spectrum for audio PMSE needs, taking also into account the transition of audio PMSE towards new spectrum efficient technologies”.*

We would also wish to underline the conclusions adopted at the European Council meeting on June 30<sup>th</sup> 2023 calling “on deepening the Single Market, preserving its integrity, its four freedoms and its openness, ensuring a level playing field and creating a growth-enhancing regulatory framework that reduces administrative burden”. As a consequence, the Council has asked former Prime minister Enrico Letta to make

concrete and ambitious recommendations through an independent High-Level Report on the future of the Single Market to be presented at its meeting of March 2024. The effects of Brexit on the touring opportunities- or lack thereof- for British artists and crews, and the missed revenues associated for the British creative industries, has stressed the importance of the Single Market and associated ability for touring companies to travel seamlessly from one EU country to another without administrative or technical barriers. PMSE are a critical part of this equation and preventing their use across Europe would create unnecessary barriers to the touring industry.

The cinema and audiovisual production industry also relies on PMSE to create appealing content for their audiences. Over the last 20 years, the production industry has become worldwide, with significant European production companies emerging and US broadcasters and streamers turning to European-based crews and services. For instance, a recent report from the European Audiovisual Observatory has stressed the increase of US actors' spending in original European content<sup>1</sup>. "Lupin", "Dark" or, more significantly, "Game of Thrones" are just a few examples of such content filmed in Europe; meanwhile, broadcasters such as Hallmark turn ever more often to Europe for producing quality content for US audiences<sup>2</sup>. All of these rely deeply on PMSE equipment and, whenever several European filming locations are required there is a need to be able to use the same devices.

#### Spending (excluding news) on European original content by category of players (EUR bn)



Source: European Audiovisual Observatory analysis of Ampere Analysis data

<sup>1</sup> [https://www.obs.coe.int/fr/web/observatoire/home/-/asset\\_publisher/wy5m8bRgOygg/content/close-to-eur-21-bn-invested-by-broadcasters-and-streamers-in-european-original-content-in-2022](https://www.obs.coe.int/fr/web/observatoire/home/-/asset_publisher/wy5m8bRgOygg/content/close-to-eur-21-bn-invested-by-broadcasters-and-streamers-in-european-original-content-in-2022)

<sup>2</sup> <https://www.nytimes.com/2023/11/22/movies/christmas-movies-hallmark-lifetime-europe.html>



The future of the sub-700 Mhz spectrum is also to be considered in the context of the evolution of the DTT platform. Indeed, the TV-UHF band has been successfully shared with television broadcasting services for many years on a cooperative basis. Though the amount of spectrum available to TV in the UHF band has dramatically reduced in many countries over the last 30 years, the case for TV broadcast and PMSE use in the UHF band is still relevant.

DTT is still being used either as the only or as a secondary TV reception platform by a significant number of European households, especially in countries such as Spain, Italy and France. This significance is partly explained by the difficulties to connect these households to other platforms, due to geography. Other more recent elements have also made the case for DTT, as a resilient platform: storms and climatic events are hitting European territories ever more often, disrupting electrical grids and the networks relying on them; in such circumstances, provided that households can access power as well, getting a few transmission towers back in operation can be more effective and speedy than several telecom cabinets or base stations.

The modernization of DTT is also a requisite to propose all European citizens the same image and sound quality, wherever they live. Up until now, 4K UHD has been mostly restricted to urban, well-off areas. The launch of 4K channels on DTT will help fill the digital divide. As a consequence, Spain is to launch 4K channels on DTT in early 2024 while France aims to have 2 channels covering 70% of their population in time for the Paris Olympics.

France Television will be running those 2 nation-wide channels, one of which at least will be permanent and subsist after September 2024, using Audio Coding 4 format to provide national and international audiences with high quality audio. Indeed, the whole production chain needs to take the end result into account and provide the highest possible quality format from end-to-end. This includes audio production sources and, consequently, the PMSE equipment and the availability of frequencies free of interferences.

For technical and practical reasons, the UHF band remains the most relevant for the use of PMSE. First, as portable devices, in-ear monitors and talk-back systems need



obviously to include small-sized antennas and batteries. Considering the related power consumption and frequency efficiency, the UHF band is the most suited to address these issues, as it allows low-consumption, high spectrum efficiency devices. These frequencies also permit to filter out background noise and thus reduce the need for extra power to counter such noises at production level.

One other consideration is absorption: as handheld or portable devices used on stages, film settings or outdoor scenery, microphone and other PMSE signals need to travel through obstructed paths. At higher frequency ranges, this would translate into higher power consumption and increased emission strength.

Considering the above, the TV-UHF band below 1 GHz is the most relevant for PMSE equipment.

Case studies undertaken by industry stakeholders have shown that a typical production may require up to 80 parallel channels to be used, resulting in a total requirement of 60 Mhz in the UHF band.

Major worldwide events such as the Olympics may require up to 174 Mhz in the same band according to industry estimates.

Regarding the Paris Olympics, it is worth mentioning that the Frequency Management Plan published in November 2022<sup>3</sup> *“strongly requests the stakeholders involved in the Games to use a wired communication system wherever and whenever possible, in particular for microphones and cameras. The radio spectrum shall be used only when the wired communication system cannot operationally be used”*.

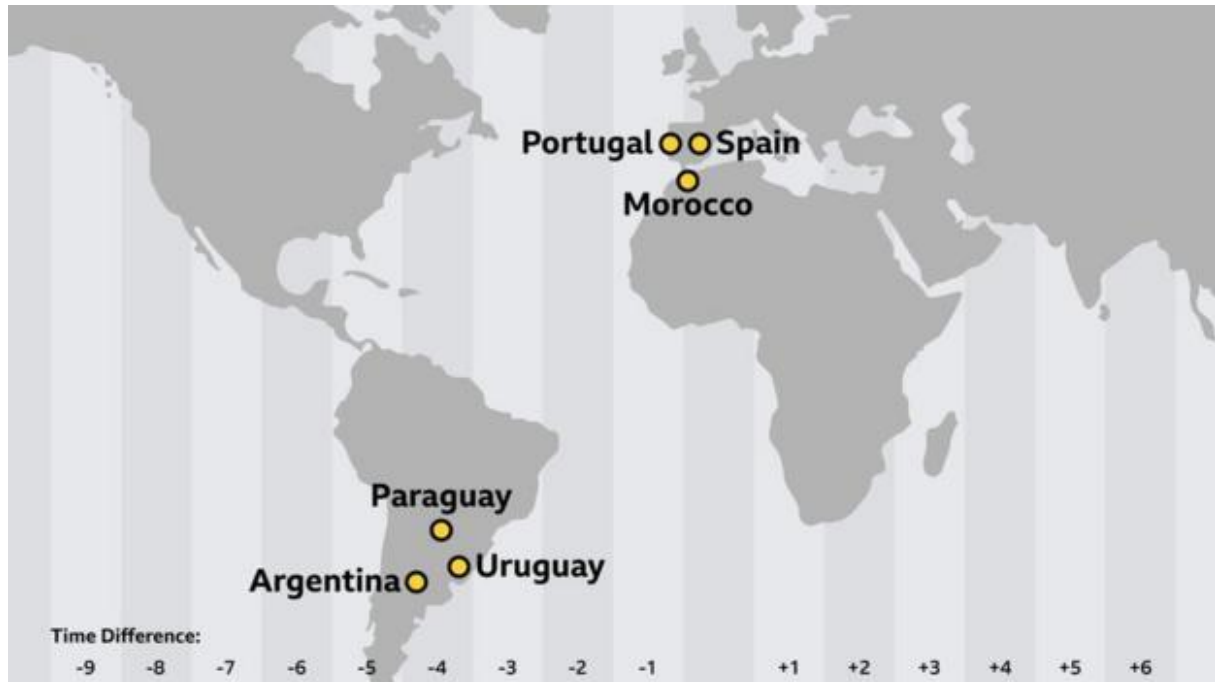
The 2030 FIFA World Cup will pose a challenge of its own as regards the use of wireless equipment. FIFA announced in late 2023 that the tournament is scheduled to take place on 3 continents and 6 countries and will require some production crews and professionals to travel from one to another. Having the possibility to use the same

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<sup>3</sup> <https://medias.paris2024.org/uploads/2022/07/Paris2024-Spectrum-management-plan-EN.pdf>

equipment- or at least the same type of equipment- would certainly alleviate the technical burden on these professionals.

#### Planned locations for the 2030 FIFA World Cup Tournament



*Source: BBC Sport*

### Beyond 2030

The uptake of UHD TV and the associated upgraded audio quality together with that of immersive and spatial audio in the realm of music and AR/VR will fuel the need for ever more audio production quality and innovation.

These dynamics drive manufacturers to invest in R&D and propose their customers with ever more efficient and innovative products. Consequently, they continuously explore new technologies to meet the needs of the creative industries.

5G technologies have been considered but do not seem to be able to meet the requirements in the short term, due to their quality and latency characteristics.

Another considered option is Wideband Multichannel Audio System (WMAS- ETSI harmonized standard EN 300 422-1). The WMAS technology increases spectrum



efficiency and link coordination via a single wideband canal. Though permitting greater spectrum efficiency while offering capabilities in line with producing and touring crews requirements, WMAS will not eliminate the need for clean (i.e. no TV, no IMT use and no duplex centre gaps) spectrum in the 470 – 694 MHz band.

## **Conclusion**

In order to continue to support vibrant and valuable Creative Industries, that also contribute to promote European values worldwide, PMSE manufacturers and users need stability and visibility on the future available spectrum.

In order to do so, we call for

- The 470 - 698 MHz band to remain the core band for PMSE worldwide, maintaining the existing shared spectrum arrangement with TV
- The availability of at least 80 continuous and harmonized Mhz in the above-mentioned range for PMSE
- Sharing spectrum with TV in whatever spectrum TV continues to have access to in the above-mentioned range
- A minimum of 50 additional MHz in other bands below 2 GHz, such as 960 - 1164 MHz, 1240- 1260 MHz, 1350-1400 MHz, harmonized across Europe.

SEINEP thanks the RSPG for considering our request to keep sufficient spectrum available for PMSE to function in the 470- 698 Mhz band beyond 2024.