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Sennheiser response to the RSPG consultation:
Opinion on the ITU-R World Radiocommunication Conference 2023

Sennheiser electronic GmbH & Co. KG welcomes the opportunity to provide feedback on RSPG's draft opinion on the ITU-R World Radiocommunication Conference 2023 (WRC-23). We fully recognise the importance of the RSPG's Opinions in advising the European Commission and in helping to map out the longer-term spectrum management strategy of the EU.

About Sennheiser

At Sennheiser, we aim to shape the future of audio by creating unique sound experiences for our customers. As a third-generation family-run business, we are equally proud of our over 75-year history and past accomplishments and innovations in the world of audio and of our ambition to shape its future.

Sennheiser electronic GmbH & Co. KG, headquartered in Wedemark (Germany), is the leading European manufacturer for professional audio solutions such as microphones, meeting solutions, streaming technologies and monitoring systems. The business with consumer devices such as headphones, soundbars and speech-enhanced hearables is operated by Sonova Holding AG under the license of Sennheiser.

The importance of the 470 to 694 MHz band to the Cultural and Creative Industries

Wireless audio applications, such as wireless microphones, in ear monitors (IEMs) and talkback communication systems are extensively used in a range of cultural, creative, and societal activities collectively referred to as Programme Making and Special Events (PMSE). These include film and TV production, live music and theatre, cultural events and in organisations such as schools and colleges, places of worship and in businesses and exhibition halls.

The cultural and creative industries (CCI) are recognised as one of the most dynamic economic sectors, essential for cultural diversity, strengthens social cohesion and increases Europe's attractiveness internationally.[1] Studies consistently show the scale of the value of the CCIs to the EU. For example, a 2021 study by EY noted that in 2019 (before COVID-19), CCIs represented 4.4% of EU GDP in terms of turnover, with annual revenues of €643 billion and a total added value of €253 billion, employing more than 7.6 million people.[2]

The European Commission study on "The situation of theatres in the EU Member States" (published in 2022), highlighted that on its own the Performing Arts sub-sector had the strongest growth among all CCI sub-sectors between 2013 and 2017 of 8.6% CAGR, reaching EUR 44,7 billion in 2017.[3] In addition, the study presents the view that theatre and the performing arts:

- Fosters democracy by enabling citizens to understand and accept different points of view.
- Enhances social cohesion by bringing people together and providing the space for various communities to engage.

[1] Data on the cultural sector | Culture and Creativity (europa.eu)
[2] Rebuilding Europe – The cultural and creative economy before and after the COVID-19 crisis: 4b2ba2_1ca8a0803d8b4ced9d2b683db60c18ae.pdf (rebuilding-europe.eu)
[3] Study 'The situation of theatres in the EU Member States' - Publications Office of the EU (europa.eu)

- Promotes intercultural dialogue through the cross-border mobility of artists and performances, contributing to the awareness and appreciation of the diversity of languages and aesthetics, both within Europe and beyond.

Audio PMSE applications are fundamental to delivering this value, providing the tools needed for creators and performers to capture and deliver content to live audiences, film and television viewers, and attendees at social and cultural events.

The band 470 to 694 MHz band is the primary spectrum resource for audio PMSE. It is identified as a harmonised tuning range for audio PMSE equipment in ERC Recommendations 70-03 (Annex 10) and 25-10 (Annex 2) and is made available in every Member State of the EU (and more broadly in all countries of the CEPT and many countries globally). Any reduction in access to this band will significantly impact the PMSE sector and the CCIs that depend on PMSE applications.

Comments on the Draft RSPG Opinion: WRC-23 Agenda Item 1.5

<u>The need for regulatory action in the 470 to 694 MHz band is not proven</u>

The review of the UHF band (470 to 960 MHz) is in accordance with Resolution 235 (of WRC-15). The Resolution calls for studies (amongst other things) on the spectrum needs of services within the band and based on those studies, invites WRC-23 to consider possible regulatory action in the frequency band 470 to 694 MHz in Region 1 (the 600 MHz band). Specifically, this 'regulatory action' is considered to be a co-primary allocation to the Mobile Service (likely for the purpose of 5G/IMT), i.e. an additional spectrum allocation to IMT.

We are of the view that to date these studies have provided insufficient evidence that sets out a compelling need for additional mobile IMT spectrum or for any regulatory action in the 470 to 694 MHz band or parts of it.

Deficiencies in mobile IMT coverage is not due to the lack of spectrum but rather due to insufficient network infrastructure which can be resolved through network densification. It is argued by the cellular mobile industry that the 600 MHz band would provide improved performance of IMT networks in rural and some suburban areas, and in buildings at reduced infrastructure development costs to mobile operators. However, there is little detail available on the extent of those cost savings compared with other options. For example, what is the incremental benefit (in terms of the reduction of new sites) of the 600 MHz band compared with existing spectrum, including the 700 MHz and 800 MHz bands, or site sharing between mobile network operators which is recognised as a significant approach to reducing infrastructure costs which can also help reduce energy consumption and radio emissions of networks.

Some administrations already have in place incentives and support for densification of mobile networks. For example, in Germany the Federal Government will provide around 1.1 billion euros from the Special Fund for Digital Infrastructure to support the development of up to 5,000 mobile communication sites along with other actions such as introducing simpler authorisation procedures and allowing masts to be erected in more places.[4] In addition, the Federal Government has incentivised network operators to agree on infrastructure sharing that is as extensive as possible. Similarly, in the United Kingdom the Government and operators have agreed a £1 billion deal to improve coverage, of which more than £500 million will be provided by the Government. This is

[4] mobile-communications-strategy-lang.pdf (bmvi.de) and Mobilfunkstrategie (bundesregierung.de)

called the Shared Rural Network (SRN) programme where mobile operators will work together on shared infrastructure which can bring significant cost savings.

The result of such funding and support initiatives by governments reduces the economic burden on operators of infrastructure investment already underway to meet nations' coverage objectives. It is clear therefore, that costs of improved coverage and capacity can be effectively reduced without the need for additional spectrum, which itself would introduce costs from potential spectrum awards, and bring societal benefits as mobile operators can direct saved cost to the customer in pricing.

Commission Decision (EU) 2017/899

The EU harmonisation of the 470 to 694 MHz band for PMSE provides significant benefits to both users and manufacturers. It contributes to the EU's internal market objectives by improving the quality and efficiency of spectrum use; provides long-term visibility and legal certainty for access to spectrum; stimulates research and development, e.g. the digitalisation of PMSE equipment and other aspects of efficient use of spectrum; encourages investment by manufacturers in PMSE technology; lowers prices; allows for economies of scale; and fosters cross-border portability of equipment and interoperability.

To protect these benefits, and the societal, cultural and economic benefits coming directly from PMSE, Article 4 of the Commission Decision (EU) 2017/899 declares that Member States shall ensure availability of the 470 to 694 MHz frequency band for PMSE until at least 2030. The Decision notes that this would achieve "regulatory predictability" until 2030 and should be reviewed by 2025.

PMSE and mobile IMT cannot share spectrum as demonstrated in the reallocation of the 800 and 700 MHz bands to mobile IMT where PMSE (and DTT) was cleared from those bands. While a co-primary allocation to mobile at WRC-23 does not necessarily mean that the band would be assigned and used for mobile IMT (by any particular country), it increases the legitimacy of any potential reallocation of the band to mobile IMT with the corresponding reduction of spectrum availability for PMSE. This would critically impact a significant number of PMSE activities and events in all EU Member States.

RSPG's draft opinion

Our view is that the objectives of Commission Decision (EU) 2017/899 are only satisfied by 'No Change' at WRC-23, and therefore support this as the recommendation from the RSPG. Regarding RSPG's suggestion to consider this issue at either WRC-27 or WRC-31, we are of the view that 2027 would be too early to make an informed decision given that the outcome of the review of the Commission Decision (EU) 2017/899 will not be known until 2025 or later and would unnecessarily introduce further regulatory uncertainty. On this basis, WRC-31 might be a more appropriate time to look again at this issue.

We do not understand how the RSPG came to the view that the objectives of Commission Decision (EU) 2017/899 would be met by a co-primary allocation to the mobile service to become effective "at a later stage." Without the outcome of the review of the Decision (EU) 2017/899 assessed and fully understood, or with a compelling argument for the need for additional spectrum for IMT, agreeing a co-primary mobile allocation in 2023 for implementation in the future would be imprudent.

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Such a regulatory decision would stifle investment which in turn would significantly undermine the societal, cultural and economic benefits delivered by PMSE. On this basis we do not agree with the position put forward by RSPG that a co-primary allocation at a later stage would meet the objectives of Commission Decision (EU) 2017/899.

Conclusion

Considering the views expressed above, Sennheiser's position is that only a 'No Change' on WRC-23 agenda item 1.5 complies with the objectives of Commission Decision (EU) 2017/899 and satisfies the requirements of the PMSE sector and the societal benefits to EU citizens provided by the cultural and creative industries. Any future consideration of possible co-primary allocation to the mobile service should not take place until WRC-31 at the earliest, after the review of Commission Decision (EU) 2017/899 has been completed and the outcomes fully understood.

Sennheiser does not support the RSPG suggestion for a co-primary allocation to the mobile service that would come into effect at a later stage. This would undermine the trust in the Decisions of the EU, create significant regulatory uncertainty at this time and could paralyse the EU PMSE market.