

21/12/2021

**Draft reply of ARD and Deutschlandradio to**  
**Radio Spectrum Policy Group**  
*Draft Work Programme for 2022 and Beyond*

ARD<sup>1</sup> and Deutschlandradio thank RSPG for the opportunity to reply on the draft work programme for 2022 and beyond.

As set out in the Commission Decision 2019/C 196/08 establishing the RSPG, we particularly agree to regard (5) of the preamble that *“the Group should further contribute to the development of a radio spectrum policy in the Union that takes into account not only technical parameters but also [...] cultural [...] and social considerations.”*<sup>2</sup>

ARD and Deutschlandradio daily generate public service media by the use of radio spectrum for millions of viewers and listeners. The use of this spectrum for wireless media production as well as for content distribution creates social and cultural values that are essential for social cohesion and the strengthening of democracy in Germany and Europe.

In the following, we have identified aspects for each point of the proposed work programme that are of utmost significance for the shaping of European policy opinions for future spectrum use against the backdrop of public service media.

**WRC23:**

The decisions of WRC23 are of paramount importance for spectrum management in the ITU region 1, i.e. especially for the EU Member States for the entire decade and beyond.

Therefore, we welcome the possibility to contribute to the announced RSPG Public Consultations on the Draft and Final Opinion on EU positions for WRC23 in June 2022 and November 2022 respectively.

One of the key agenda items of WRC23 for Public Service Media is agenda item 1.5 and its related regulatory decisions in the band 470 – 694 MHz. This band is heavily used, both for wireless PMSE<sup>3</sup> and Digital Terrestrial Television (DTT). Due to its physical characteristics there is no equivalent alternative spectrum for PMSE on the horizon. Efficient spectrum sharing with DTT has been proved for decades. There are millions of households whose main TV reception path comes via DTT. We provide DTT on a free-to-air basis, even under crisis and disaster conditions through resilient networks.

In the future, we strive to maintain this unique selling proposition by laying the foundations for being able to introduce 5G Broadcast. 5G Broadcast addresses mobile devices we all carry in our pockets, like smartphones and tablets. As a Public Service Media organisation we plan to adapt to changing viewing habits by creating prerequisites to reach growing mobile audiences with 5G Broadcast networks. For this purpose UHF licenses assigned to Public Service Media are indispensable.

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<sup>1</sup> ARD: Arbeitsgemeinschaft der öffentlich-rechtlichen Rundfunkanstalten in Deutschland

<sup>2</sup> [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:JOC\\_2019\\_196\\_R\\_0008](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:JOC_2019_196_R_0008)

<sup>3</sup> PMSE: Programme Making Special Events

In this context, we would like to recall the ITU-R survey that asked countries of region 1 about their future spectrum needs for DTT. In the report ITU-R BT.2302-1 (03-2021) it is stated that more than 100 countries responded. Out of these countries 83 required 224 MHz as of today. 12 countries required even more and just 7 countries needed less than 224 MHz. This also holds true for the EU. Seven countries required more than 224 MHz and just two less. All other EU Member States replied that they need an unchanged amount of 224 MHz. In our opinion, this argues for an unchanged allocation of the spectrum to broadcasting beyond 2030.

The new German Federal Government has confirmed this in its recent coalition agreement<sup>4</sup> by saying that the UHF spectrum shall remain permanently available for broadcasting and culture.

**“Good offices” to assist in bilateral negotiations between Member States:**

ARD and Deutschlandradio welcome this possibility to solve coordination issues between Member States. Recently, RSPG presented on 6 December 2021 in its workshop on the work programme an interference case between the mobile service in Croatia and the broadcast service in Italy in the 700 MHz frequency band. This case impressively proved that interferences actually occur across large distances. It is very often claimed that a co-primary allocation of the UHF band would offer more flexibility with regard to varying national spectrum needs and is therefore desirable. Unfortunately, this case shows that a co-primary allocation in the UHF band for a simultaneous but different use in different Member States does not work in practice and, on the contrary, would lead to an inefficient spectrum usage.

**Mobile technology evolution – experiences and strategies:**

ARD and Deutschlandradio support the intended phase out of 2G and 3G mobile technologies as this would lead to a significant capacity improvement in mobile networks as soon as the respective frequency ranges can be used for 5G networks. This would serve the frequency requirements of the mobile network operators in terms of capacity and coverage and make spectrum requirements in the sub700 MHz band obsolete.

In order to facilitate this as soon as possible it is necessary to establish regulatory solutions for 2G legacy services like eCall or M2M<sup>5</sup> functionalities. By quickly adopting next generation eCall or 4G/5G upgrade kits for M2M functionalities as valid CENELEC standards, the EU can keep up with other non-EU countries that are already on this path.

Moreover, the current regulatory situation in the frequency range 694 – 960 MHz reflects the results of decisions taken in the course of the last decades. There is a significant number of unused frequencies, guard bands and duplex gaps. A smart approach towards a less fragmented spectrum could unleash significant frequency resources and provide for larger contiguous frequency blocks for mobile broadband. RSPG already acknowledged that this would result in higher bandwidths, improved spectrum efficiency and less energy consumption.

**Digital decade 2030:**

ARD and Deutschlandradio strongly welcome the policy objective of the European Commission in its “Path to the Digital Decade” that all European households will be covered by a Gigabit network and all populated areas will be covered by 5G in 2030. Under such conditions, stationary consumption in buildings will be based on fibre networks complemented by WLAN. Portable and mobile consumption of content and services requires radio transmissions. 5G will play an important role in this context. ARD is interested in using 5G Broadcast in order to

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<sup>4</sup> <https://www.tagesschau.de/koalitionsvertrag-147.pdf> , page 124 (German only)

<sup>5</sup> M2M: Machine to Machine communication

deliver free-to-air media services without a cap on data volume directly to people's smartphones without eating into any data subscription plan.

We support the availability of 5G networks for the reception of on-demand media content by using existing frequency allocations for public mobile networks.

With regard to video production, we would like to stress that 5G coverage is not only about public mobile networks. The possible use of the 3.7 – 3.8 GHz band for non-public 5G Campus Networks in Germany is a positive example of efficient regulation. ARD is of the view that a regulatory regime for a nomadic use of 5G Campus Networks for video production would be beneficial. But please note that PMSE equipment like wireless microphones and IEMs<sup>6</sup> cannot be operated in this frequency band due to the propagation characteristics of the high frequencies.

**The development of 6G and possible implications for spectrum needs and guidance on the rollout of future wireless broadband networks:**

As stated above, ARD and Deutschlandradio are of the view that a long-term assignment of the harmonised UHF frequencies for culture and broadcast is indispensable and backed by the new German Federal Government. The future needs of 6G can likely be accommodated in the existing frequency ranges for the mobile service by a timely refarming of existing assignments for 2G, 3G and then later 4G networks.

Additionally, current 6G research, for example, encompasses the use of Artificial Intelligence to derive on an ad-hoc basis the most suitable modulation and coding scheme. This contributes to an improved data throughput while limiting the greenhouse gas emissions simultaneously. We strongly support this kind of research. In the same way, 6G research already foresees the advent of practicable quantum computing to secure data protection in 6G connections. ARD and Deutschlandradio depend heavily on the provision of secure networks respecting privacy and confidentiality. This holds particularly true in light of fake news.

**Strategy on the future use of the frequency band 470 – 694 MHz beyond 2030 in the EU:**

ARD and Deutschlandradio welcome the possibility to contribute to the intended public consultation on this matter.

Nevertheless, we would like to mention that providing a Final Opinion on the EU position for WRC23, including agenda item 1.5 on the UHF band in November 2022 and then publishing a Final Opinion on the use of this very band beyond 2030 in February 2023 is, according to our view, the wrong order.

In order to refute the view that a co-primary allocation at WRC23 should be sought for flexibility reasons, we propose to first clarify the future use in Europe and then the respective EU position for WRC23.

In all Member States in the EU this band is the core band for PMSE. This is why ARD and Deutschlandradio also heavily use these frequencies for the production of media content as there is no suitable replacement. Modern media production, be it sports media, interviews or music events can only be done by using wireless microphones, in-ear-monitoring, etc. Any further reduction of the available UHF spectrum would literally harm the production of large and mid-size media events.

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<sup>6</sup> IEM: in-ear monitors

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In this context, we would like to recall the ITU-R survey that asked countries of region 1 about their future spectrum needs for DTT. In the report ITU-R BT.2302-1 (03-2021) it is stated that more than 100 countries responded. Out of these countries 83 required 224 MHz as of today. 12 countries required even more and just 7 countries needed less than 224 MHz. This also holds true for the EU. Seven countries required more than 224 MHz and just two less. All other EU Member States replied that they need an unchanged amount of 224 MHz. In our opinion, this argues for an unchanged allocation of the spectrum to broadcasting beyond 2030.

The new German Federal Government has confirmed this in its recent coalition agreement<sup>7</sup> by saying that the UHF spectrum shall remain permanently available for broadcasting and culture.

Therefore, we strongly urge to keep the whole of the remaining UHF spectrum for culture and broadcasting beyond 2030.

### **Role of Radio Spectrum Policy to help combat Climate Change:**

ARD and Deutschlandradio agree with the intention to identify methodologies and collecting practices to assess the energy efficiency of wireless technologies. To combat climate change is one of the most urgent tasks that faces the world, the EU and EU citizens.

Recently, studies<sup>89</sup> were published which compared the greenhouse gas emissions of broadcast with streaming. It turned out that broadcast emits less CO<sub>2</sub> than streaming.

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<sup>7</sup> <https://www.tagesschau.de/koalitionsvertrag-147.pdf> , page 124 (German only)

<sup>8</sup> [https://www.bbc.co.uk/rd/publications/whp372\\_behavioural\\_data\\_environment\\_impact\\_electricity\\_consumption\\_tv\\_platforms](https://www.bbc.co.uk/rd/publications/whp372_behavioural_data_environment_impact_electricity_consumption_tv_platforms)

<sup>9</sup> <https://www.broadbandtvnews.com/2021/12/01/download-the-locat-report-into-the-carbon-emissions-of-tv-content/>