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Comments on the draft RSPG Opinion on ITU-R WRC-23 Agenda Item 1.5 (UHF Review)

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Vienna, on the 10th. August 2022

RSPG Opinion on the ITU-R World Radiocommunication Conference 2023 Proposals for the RSPG recommendation on WRC-23 Agenda Item 1.5 (UHF Review)

Dear Sir or Madam,

regarding the WRC-23 Agenda Item 1.5 (UHF Review), the RSPG recommends in its Final Draft Opinion on the ITU-R World Radiocommunication Conference 2023 of June 7, 2022, *that the European Commission proposes an EU position to the Council to ensure that the decision of WRC-23 on this Agenda item is compliant with the Decision (EU) 2017/899 providing priority to broadcasting and PMSE usage until at least end 2030.*

The RSPG is of the view that the above outlined recommendation is ensured by various options. One is No Change at WRC-23, with a possible agenda item for WRC-27 or WRC-31. Another one is a co-primary allocation to the mobile service which should become effective at a later stage (e.g. 31.12.2030). It is further noted that the EU Position on this agenda item should avoid ambiguity.

We, the Alliance of TV, Radio and Culture Broadcasters, an Austrian joint initiative of affected industries which need the UHF band for interference-free transmission and media production and set ourselves the long-term, exclusive preservation of "our" frequencies as our goal, welcome the recommendation in the first paragraph to the European Commission. But we are concerned about the statement in the second paragraph. **We need the spectrum in the long term and therefore demand "No Change" because everyone, from officials via broadcasters, the PMSE industry and cultural workers to citizens benefit from it. For officials, it's the best way to protect the population from fake news and ensure that they get to see a high quality, balanced program. For broadcasters, the PMSE industry and cultural workers there is no alternative when it comes to the 470-694**

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MHz band. A co-primary allocation would mean a great loss in economic and cultural terms. Especially for citizens there is no alternative to the free-to-air television and low-threshold access that terrestrial television offers.

The above-mentioned recommendation of the RSPG falls under case a), which means that this is an agenda item which requires an EU position to be proposed by the European Commission for adoption by the Council because a WRC decision may affect common rules. In contrast, case b) means that an EU position is merely desirable in the view of RSPG.

Regarding the cited options to ensure the RSPG recommendation in this matter, we may elaborate in detail:

I. No Change at WRC-23, with a possible agenda item for WRC-27 or WRC-31

We strongly favour this variant. In fact, we believe that it is the only viable one. Considering the aspects the RSPG has also taken into account in its related opinion, namely the requirements, technological developments, consumer behaviour, importance of delivering free-to-air television and various political, social, cultural and economic general interest objectives, this variant is the most favourable option for the officials, the population, broadcasters, the PMSE industry and cultural workers in general.

We believe that a later review of technological and market developments relevant to future use of the UHF band will be necessary before taking any decisions regarding the allocation of the 470-694 MHz band. To observe the development and to be able to derive actual trends, a further review is not necessary and sensible until WRC-31.

A. DTT offers free-to-air television and low-threshold access

The terrestrial broadcasting network is part of Austria's critical communications infrastructure and, with around 430 sites, serves 98% of the population. It is used by the public broadcaster ORF and almost all private radio and television broadcasters to provide the population with low-threshold terrestrial broadcasting signals.

By broadcasting high-quality information from licensed radio and television broadcasters, independent broadcasting makes an indispensable contribution to diversity of opinion and media to serve the public by using the autonomous broadcasting network.

In this context we want to highlight the importance of the frequency band 470-694 MHz for providing a low-threshold access to broadcast as there is still a high demand of terrestrial TV and radio, which will not change beyond the year 2030.

Over 70% of the Austrian population aged 14 and over consume linear television. From 2030 onwards, the linear TV use case will still be the dominant form of use.[1]

B. DTT is efficient

Both the transmission technology used and the frequency utilization of DTT are very efficient.

The DVB-T2 standard used for DTT is so mature that it is already close to the physical limits of a transmission channel, the so-called Shannon Limit. Together with the MPEG 4 coding used, the video and sound transmission of DTT is highly efficient.

Apart from this, the frequencies in the spectrum 470-694 MHz in the UHF range ("sub 700 MHz band") dedicated to broadcasting were optimally reallocated throughout Europe due to the previous losses of the 700 and 800 MHz band. That's the reason why we are still able to operate 6 multiplexes/layers in Austria, but there is no free frequency spectrum available.

Therefore, the availability of sufficient frequencies for terrestrial television via DTT and the future technology "5G Broadcast" (see below) is also indispensable in the long term. This also includes the secondary use by wireless microphones for content production.

C. The sub700 MHz-band is essential for the cultural sector

The creative industries have a strong leverage effect on the entire economy and generate economic growth and high-quality jobs.

Theatres, musicals, concerts and festivals, as well as conferences, sporting events, religious meetings, educational institutions and many more use radio microphones, in-ear monitoring systems, ENG and instrumental radio links or wireless conference and interpretation systems. The devices mentioned are also used for TV events, for example for live TV discussions, opera broadcasts or live TV casting shows.

These devices are a basic requirement for the cultural and creative industries and need the sub 700 MHz spectrum to transport the audio signals. This is because only this (remaining) frequency band ensures reliable signal transmission without delay even under difficult conditions.

This is why there is no alternative to the sub-700 MHz band for PMSE and with the loss of this frequency band, cultural diversity will decrease massively. Duplex gap and the guard band (694-703 MHz) must also be maintained in view of the frequency scarcity in the PMSE range.

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[1] See https://www.rtr.at/medien/aktuelles/publikationen/Publikationen/Bewegtbildstudie2022.de.html and https://www.ors.at/fileadmin/user_upload/ors/downloads/Studie_Lineares_Fernsehen_2030_in_OEsterreich_Universitaet_Salzburg_und_der_mediareports_GbR_.pdf

Co-primary use with mobile radio is not possible due to numerous technical and organisational factors. Co-primary use even under the restriction that IMT only use this in the supplemental downlink is not a solution either, because each channel used for IMT, even if only for supplemental downlink, means the PMSE sector is then not available for use. This would hit the industry enormously.

D. 5G Broadcast is innovative and complements DTT

The new 5G Broadcast transmission standard enables linear broadcast content to be distributed directly to mobile devices such as smartphones or tablets – without Wi-Fi or internet.

This is an essential, market-oriented reaction to the new, mobile and multi-screen consumption behaviour of TV viewers in the digital society.

The technology provides easy, democratically valuable access to TV programming. It also enables network operators and media content providers to deliver content and data to many consumers - for example during live events - in a crisis-proof manner, without affecting the 5G mobile network.

It is likely the three zero-rating rulings of the European Court of Justice from 2021, which mean a de facto ban on zero-rating, will result in a noticeable increase in the cost of streaming for consumers.

The basis for this innovative evolution of aerial television is the long-term availability of UHF spectrum for broadcasting.

5G Broadcast is just one of the many examples where the broadcasting sector has proven that it takes to heart aspects like technological developments and consumer behaviour which were also identified as particularly important by the RSPG.

E. DTT is energy efficient

Already, around 80% of data traffic on the Internet is video content. This is yet another reason for the need for terrestrial television. If the data volume transferred via linear television were to be transferred to conventional streaming services, the streaming volume would increase even more, which would also have a massive impact on the CO2 footprint.

By its natural adaptation to a one-to-many distribution mode, and because of the very simple and direct link to the user terminal, terrestrial broadcasting is a very energy efficient way to distribute broadcast programs.

The LoCaT study[2], carried out by the consultancy firm Carnstone on behalf of the LoCaT consortium, to which the ORS Group also belongs, compares the energy consumption and the corresponding greenhouse gas emissions of digital terrestrial television (DTT) with OTT and IPTV. In the European comparison, linear DTT performs better on average than OTT platforms and the IPTV-based distribution networks. The pioneers are France and Sweden.

The results validate that terrestrial broadcasting is indeed a very energy efficient platform. To put it more precisely: In a European comparison, linear DTT performs better on average than OTT platforms and the IPTV-based distribution networks by a factor of 9.[3]

Through the combined use of 5G technology, many more end-users can be served via the digital antenna and the ever-growing video streaming load on broadband networks can be significantly reduced. In our opinion, this would also achieve an even more beneficial climate effect.

F. DTT is the antidote to fake news

Due to the balanced content, DTT plays a key and irreplaceable role for inclusion of less favored social categories.

DTT offers a trusted source of information and is efficient against fake news, social networks disinformation and hate speech.

Note that only broadcasting is amenable to regulation. This is in stark contrast to internet broadcasting, which de facto can hardly be regulated and follows exclusively market-based rules.

G. DTT strengthens resilience in times of crisis

Particularly the previous height of the corona pandemic has shown that resilience is a benefit of the co-existence of multiple distribution platforms – including all forms of terrestrial broadcast, wired broadband, mobile and satellite – and that these technologies should be considered for their ability both to work independently from one another and to maximize coverage of a given population.[4]

However, in contrast to internet streaming, which only follows the "best-effort principle", the resilient broadcasting network offers the population quality access secured by service levels,

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[2] https://thelocatproject.org/wp-content/uploads/2021/11/LoCaT-Final_Report-v1.2-Annex-B.pdf

[3] *https://www.ots.at/presseaussendung/OTS_20211115_OTS0145/antennentv-hat-kleinsten-digitalen-co2-fussabdruck*

[4] in this context please also see https://worldbroadcastingunions.org/wbu-technical-committee-highlights-need-to-maintain-resilient-mix-of-media-distribution-infrastructures-for-times-of-crisis/

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regardless of the number of users. The existing terrestrial television and FM radio network is still the safest way for the authorities to serve citizens in the event of a disaster.

It should not be forgotten that television and radio are, as it were, "communicating vessels". If the terrestrial TV network were to disappear, this would also have a massive impact on radio stations and the part of the cultural industry that focuses on radio. As stated above, DVBT-based TV transmission and radio transmission via FM are the most crisis-proof modes of transmission. If the TV-terrestrial infrastructure were to be discontinued, the costs for radio transmission would - due to the infrastructure which is currently partly in common use - increase dramatically. The loss of DVB-T2 would thus have a serious impact on the entire radio industry and thus also on media pluralism.

II. Co-primary allocation to the mobile service which should become effective at a later stage (e.g. 31.12.2030)

A. Co-primary is NO compromise and does not provide flexibility

Co-primary allocation just sounds like a balanced compromise, but it's not. It means in any case a massive loss for broadcasting and the PMSE industry.

As soon as the UHF band is used co-primarily for broadcasting and mobile communications in a country, multiplexes and program diversity will be lost. Broadcasting would have to be greatly reduced because the UHF frequency band is already fully utilized and will continue to be needed in the future.

If one country opts exclusively for broadcasting, but only one other neighbouring frequency-dependent country opts for mobile communications, the result is the same. Such country-specific use is de facto extremely difficult to achieve.

In reality, co-primary dedication defers the decision to the national level, again necessitating lengthy bi- and multi-lateral negotiations for each individual country. Even if a solution is found, the result is less efficient than if a clear decision in favour of broadcasting is made at the WRC-23.

The same situation also arises with a co-primary dedication not with IMT-footnote, but authorization for PPDR. PPDR has the same interfering interactions in the UHF band as IMT. Therefore, a co-primary allocation would not be possible with PPDR either.

This outcome would be exactly contrary to the goal set by the RSPG, which is to achieve a harmonized and workable result.

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B. Sub 700 MHz band is NOT IDEAL for Mobile

Also, technical reasons speak against the use of the sub 700 MHz band by the mobile communications sector. This frequency band is not optimized for small-cell mobile radio coverage.

Mobile radio predominantly needs frequencies for new applications such as video downloads and uploads or autonomous driving. For the small- and micro-cell networks that are predominantly used here, frequencies with a short range are ideal, and thus not those in the sub-700 MHz band.

It is highly doubtful that the sub-700 MHz band will play a significant role in the further development of the mobile communications industry. In our view, there are far more suitable and economical strategies for mobile services and more economical strategies for the use of the available bandwidth, such as the re-farming of already allocated mobile Spectrum, the configuration of mobile networks or data compression.

With best regards

Allianz der TV-, Radio- und Kulturveranstalter
Alliance of TV, Radio and Culture Broadcasters

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