Rome, July 26, 2022

Rai – Radiotelevisione Italiana S.p.A.
Response to the public consultation on the Draft RSPG Opinion on ITU-R World Radiocommunication Conference 2023

WRC-23 Agenda Item 1.5 (UHF Review)

RAI - Radiotelevisione Italiana S.p.A [RAI in the following] is the Italian public broadcaster. It is one of the largest media companies in Europe and operates in the radio-television, film production and internet sectors, providing broadcasting infrastructures through its subsidiary companies (e.g. Rai Cinema, Rai Way). RAI is a holding company controlled by the Italian Minister of Economy and Finance.
RAI initiated its first TV terrestrial transmissions in the 1954, by using in its infancy the VHF III Band and quickly moving to also include the UHF Band.
RAI´s experts contributed to the development of technical studies, within the ITU framework, regarding TV and Audio broadcasting.
As public Broadcaster, RAI is particularly concerned to guarantee pluralism by ease and free access to the terrestrial broadcasting platform that in Italy experiences by far the largest penetration in the country. In protecting terrestrial broadcasting, RAI shields democracy and assists the cultural development of the Italian population as in the aim of its mission.

RAI welcomes the opportunity to comment on “Draft RSPG Opinion on ITU-R World Radiocommunication Conference 2023”.

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First of all, RAI considers that it is essential to take into account the aspect related to TV consumer behavior. The average behavior in European countries only using linear services does not decline at the same speed of the growth of the use of broadband services. In addition, the increase of the on-demand media consumption does not always lead to a reduction of public interest in the DTTB offers.

In particular, last statistic survey provided by Fondazione Ugo Bordoni and SWG for Ministry of Economic Development [1] stated that **in 2022 in Italy the 91,9% of population - equivalent to around 55 million people - accesses to video to linear services through the digital terrestrial television platform. It is important to point out that there is an increase of 0,7% of population in respect to the previous survey for 2021.**

Moreover, other national statistics estimate that in Italy in 2021 the access to content provided in "linear" mode, through the DTT and the broadband platforms, amounts around 86,8 billion of hours and 362,5 million of hours, respectively (99.6% DTT and 0.3% broadband - Source: Elaborations RAI from Auditel).

The introduction of 5G and 6G technologies brings with them the concepts of virtualization, cloud, and orchestration that require overcoming current spectrum fragmentations for mobile services below 1 GHz. In this regard, it is the same Radio Spectrum Policy Group RSPG, in the Radio Spectrum Policy Programme (RSPP)of June2021 to suggest to the EU Commission and the Member States to overcome these fragmentations to evaluate the phase-out of legacy technologies (2G, 3G and also 4G) in the next ten years.

For all these reasons, RAI calls for **preserving the future of the free-to-air audio visual public service mainly provided by digital terrestrial television through the existing exclusive primary allocation to broadcasting in the 470-694 MHz frequency band, the only band still available for digital terrestrial television,** with secondary allocation to programme-making and special events (PMSE) and **strongly supports "No-Change" at WRC-23**.

Rai **agrees with RSPG recommendation "*that the European Commission proposes an EU position to the Council to ensure that the decision of WRC-23 on this Agenda item is***

[1] Source: https://atc.mise.gov.it/images/documenti/Diffusione_degli_apparati_TV_in_Italia_e_scenari_evolutivi__aggiornamento_giugno_2022.pdf

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***compliant with the Decision (EU) 2017/899 providing priority to broadcasting and PMSE usage until at least end 2030*" and strongly recommends to ensuring it by supporting the first option of a No-Change at WRC-23**.

Regarding **the second option of "*a co-primary allocation to the mobile service which should become effective at a later stage (e.g. 31.12.2030)",* this option seems not supported, for the time being, by the results of ITU-R questionnaires about spectrum use and needs, submitted by Administrations and Sector Members of Region 1 showing that about 100 Administrations asked to ensure the 470-694 MHz band for broadcasting and only few Administrations asked for further allocations for mobile service in the UHF band. It must be carefully noted that after the last WRC-19, about 19 GHz of spectrum are now identified for 5G-IMT, of which almost 15 GHz harmonized worldwide and 266 MHz in the UHF band. Therefore, the sub-700 MHz band represents less than 1% of the overall spectrum already allocated to mobile service and identified for IMT, while on the other hand it represents the only spectrum available for television broadcasting.**
As it is shown by number of studies, the spectrum allocated to mobile service below 1 GHz in Region 1 could be more efficiently reorganised, by also facing out legacy services providing up to 70% of additional capacity for IMT.
Moreover, the UHF spectrum is not well suited for typical 5G features such as MIMO and beamforming, high speed and low latency use cases which requires higher frequencies (mmWave). Even the request of further allocation to mobile spectrum in the UHF band for rural and indoor coverage is not justified. Firstly, 266 MHz of spectrum between 694 and 960 MHz, which have similar propagation properties of the sub-700 MHz band, are already identified for IMT. Moreover, the coverage of rural areas which are not so recurring in Europe can be provided by different technical solutions and mostly by further investments in infrastructures while the coverage of indoor areas can be provided by other systems like Wi-Fi and/or optical fiber distribution.

Considering that the outcome of every WRC should make all participants equally unhappy, in a spirit of compromise RAI can accept to postpone any decision on the future use of the 470-694 MHz band with a possible agenda item for a future WRC, not before the WRC-31, in order to ensure compliance with the Decision (EU) 2017/899 which provides priority to broadcasting and PMSE usage until at least end 2030 and at the same time having a more clear framework in terms of spectrum needs of the existing services.

Furthermore, RAI considers that 470-694 MHz band is essential for broadcasters to

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innovate by developing new technologies within existing DVB-T2 standard and new “LTE based 5G Broadcast” standard which will be key in the future.

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