



21st August 2023

TO: CNECT-RSPG@ec.europa.eu

**Confindustria Radio Televisioni response to the Public
Consultation on the Draft RSPG Opinion on Strategy on the
future use of the frequency band 470-694 MHz beyond 2030 in
the EU**

Confindustria Radio Televisioni (CRTV) is the association of Italian public and commercial radio and television broadcasters.

Established in June 2013, CRTV includes among its members: Discovery Italia, Elemedia (GEDI), GMH, La7, Mediaset, Persidera, Prima Tv, Qvc Italia, Radio Italia, CN Media, RAI Radiotelevisione Italiana, Gruppo 24Ore, RDS – Radio Dimensione Suono, Rete Blu, RTL 102,500 Hit Radio, Sportcast, Tivù, Viacom International Media Network Italia, EI Towers. Satellite operator Eutelsat Italy is an aggregated member. Major local TV and radio broadcasters are represented in CRTV through the Association of Local Televisions and the Association of Local Radios FRT.

The sector has overall revenue of about 9,8 billion euros and a workforce of approximately 90,000 employees, of which about 30,000 direct (CRTV estimates).

CRTV's goal is to represent the broadcasting industry as a whole at the institutional, legislative and contractual levels.

CRTV collaborates with all competent Ministries, Political Institutions, and Regulators, both at national and EU level. The Association's activities are aimed at contributing to the creation and maintenance of fair rules that allow the sector to grow, innovate and

BROADCASTER TV:
Discovery Italia Srl
Gmh Spa
La7 Spa
Mediaset Spa
Qvc Spa
Rai Spa
Rete Blu Spa
Sportcast Srl
Viacom International
Media Network Italia Srl

RADIO NAZIONALI:
Cn Media Srl
Elemedia Spa
Gruppo Sole24 ore
Radio Dimensione
Suono Spa
RadioMediaset Spa
Radio Italia Spa
Rai Spa
RTL 102,500 Hit Radio Srl

EMITTENZA LOCALE:
Associazione Tv
Locali
Associazione Radio
FRT

**PIATTAFORME
SATELLITARI:**
Eutelsat SA
Tivu Srl

**OPERATORI DI
RETE:**
EI Towers Spa
Elettronica
Industriale Spa
Persidera Spa
Prima Tv Spa
Rai Way Spa

PARTECIPAZIONI IN:
Confindustria
Auditel
IAP
AER
Eurovisioni
Osservatorio TuttiMedia
ITU - International
Telecommunication
Union

continue to play its important role in the modernization process of the country.

CRTV shares RSPG approach to cover all aspects of the possible uses of UHF band beyond 2030, considering that different situations and different needs are present in the European Union so that after 2030 a common path toward a single scenario that fits all will be very difficult to reach. This is of paramount importance.

Of the same importance the acknowledgment that no Member States has implemented flexibility under Article 4 of Decision 899/2017 to introduce any mobile services in sub700 MHz band and that there is the need to start this kind of implementation before any other regulatory action would be taken. It is worth noting also that no evidence has been reported in the draft opinion on the flexible national use for Public Protection and Disaster Relief (PPDR), Programme Making Special Events (PMSE) or Internet of Things (IoT) in 700 MHz band even if the frequency arrangement were provided in Decision (EU) 2016/687.

In some European Countries digital terrestrial platform has a crucial role for the protection of pluralism and democracy principles. Its no-profiling nature differentiates it from any IP networks. Therefore, the existence of broadcasting on an exclusive basis needs to be preserved in some Member States after 2030.

CRTV fully shares RSPG Opinion stating that any alternative to broadcasting and PMSE usage of the sub-700MHz band, in EU Member States, remains a national political decision and it is essential to consider that any relevant regulatory framework on the EU level may have significant impact, i.e. limit or strengthen, Member States' abilities to individually implement any of the scenarios outlined by the Opinion.

CRTV provides the following comments and suggestion on the draft Opinion. The response is organised according to the structure of the document with comment directly referring to the text with highlighted boxed sentences.

Existing text, deleted text , inserted new text .

1 Introduction – Scope of RSPG activity

Conforming to article 4 of the Decision (EU) 2017/899, CRTV suggests modifying the second sentence as follows.

In 2017, this RSPG Opinion and the Lamy report recommended the main elements of the compromise which was the basis of the Decision (EU) 2017/8992 on “the use of the 470-790 MHz frequency band in the Union”. Under Article 4, this Council and European Parliament Decision is providing legal certainty **at least** until 2030 to terrestrial broadcasting and Programme Making and Special Events (PMSE), in the frequency band 470-694 MHz.

The importance of broadcasting for information and linear contents delivery on a universal basis has been proven by:

- a. what happened during the COVID emergency, and it is happening in the Ukraine war;
- b. recent cyberattacks on European TLC networks;
- c. IP network congestion problems.

The broadcast infrastructure in the aforementioned situations has proven to be robust and resilient and constitutes the irreplaceable real alternative, increasingly necessary, to IP networks.

In some Member States, only broadcast can guarantee the delivery of linear contents to the large public without profiling and therefore it represents a fundamental means for the protection of pluralism and democracy beyond 2030.

For these reasons, CRTV suggests introducing an additional bullet item at the end of section 1.

- a review of the background and recommendations of the RSPG15-595 FINAL Opinion (Section 2);
- conclusions on how the flexibility set out in Article 4 of the Decision (EU) 2017/899 could be implemented in practice (Section 3);
- possible and technically feasible scenarios concerning development of use in this frequency band with relevant **key economic, social and cultural** assumptions and



conditions, including potential consequences in terms of EU harmonisation framework in this band, in particular for post-2030, and taking into account the links with content regulation (Section 4);

- **The relevance of maintaining in some EU Member States, beyond 2030, a non-profiling technology such as broadcasting for the benefit of pluralism and democracy.**

2 Review of the RSPG15-595 FINAL Opinion on the 470-790 MHz UHF band

Since RSPG15-595 FINAL does not refer to any need for “*a common timing for the reorganization of the UHF band*”, CRTV suggests modifying the first sentence as follows.

In the RSPG15-595 FINAL Opinion, RSPG provided a vision for the use of the UHF band in the next decade, supporting broadcasting and PMSE needs and developed relevant strategic recommendations, regarding the implementation of Wireless Broadband Electronic Communications Services (WBB ECS) in the 700 MHz band ~~and a common timing for the reorganization of the UHF band.~~

The document is very articulate: first, it gives an overview of the UHF band use in the Member States and the ongoing activities in international regulatory bodies (ITU, CEPT and EC); then it delves into technological developments and related standardisation activities; finally, it provides the elements for defining a long-term strategy, ~~also reporting on critical issues for a migration.~~

2.1 Review of the Background

From its elaboration, CRTV requested LS Telecom and VVA Report “Study on the use of the sub-700 MHz UHF band (470-694 MHz) (<https://op.europa.eu/en/publication-detail/-/publication/8c6755a1-4f55-11ed-92ed-01aa75ed71a1/language-en/format-PDF/source-search>) emendations since it does not represent the real developments and trends that are relevant to the current and future use of the 470-694 MHz band.

CRTV reiterates the request to correct the Report or, as a better alternative, to compile a new one with the appropriate methodology and updated data.

The methodology to calculate the numbers of households mixes up free-to-air and pay TV with the wrong assumption that, if there is a pay TV service in households, no other service - pay or free - applies to each family. Moreover, the study confuses IPTV and

OTT. IPTV delivers TV contents over a broadband network using IP with a specific quality of service guaranteed by the service provider (walled garden). This is distinct from OTT, which is TV delivered over the open internet on a best effort basis.

Not to mention the mix of audience of TV channels (Comcast, ARD, BBC) with VOD (Netflix).

Also data on DVB-T2/HEVC are not accurate since they include multiplexers still operated in DVB-T.

At the same time data on SFN do not take in consideration that all Italian multiplexers are operated on a single frequency basis using High Power High Towers HPHT, while the Report states that the implementation of SFN network double the cost of an MFS and the impossibility of implementing SFN with HPHT.

In Italy, considering the 14 frequencies available after negotiation with neighbouring countries, 11 national multiplexers and 2 local multiplexers for each region are operated with SFN technology for the benefit of the efficient use of sub-700 band and the cost are not doubled. A 12th national multiplex is still to be auctioned.

For these reasons, CRTV prefers not to reference this Report and suggests the following modifications to the fourth sentence on page 4.

To examine latest developments and trends that are relevant to the current and future use of the 470-694 MHz band, the EC ~~performed a study~~ **gathered data** on the use of the sub-700 MHz UHF band (470-694 MHz)⁸.

~~⁸ Study on the use of the sub-700 MHz UHF band (470-694 MHz):
<https://op.europa.eu/en/publication-detail/-/publication/8c6755a1-4f55-11ed-92ed-01aa75ed71a1/language-en/format-PDF/source-search>~~

2.2 Review of the Recommendations to Commission and Member States

With reference to the first group of recommendations (1-4) and in particular with reference to the process to deliver 700 MHz Wireless Broad Band WBB authorizations, it should be noted that in the Italian 5G auction the 3 SDL slots (738-743, 743-748, 748-753 MHz) remained unassigned due to participants' lack of interest. This happened also in other Member States.

This is one of the aspects that need to be carefully analysed to review appropriately the Recommendations to Commission and Member States: the effective use of the spectrum already allocated to a service.

Another aspect is related to any request for new spectrum allocation. This request needs to be accompanied by a careful assessment of the correct use of the already assigned spectrum. No other spectrum should be assigned to services that can be reorganize with an improvement of efficiency.

The UHF band is the best example. While a further reduction beneath 694 MHz of the broadcasting spectrum for mobile would endanger the survival of this technology beyond 2030, at the same time the benefits for IMT applications are limited and a better use and reorganisation of 694-960 MHz bands would better fit the purpose.

For these reasons CRTV suggests the following modifications to the third and sixth sentence.

A first group of recommendations (1-4) concerned the implementation of WBB in the 700 MHz band, in preferred common timing (by the end of 2020) and the need for a framework of migration of the broadcasting services towards frequencies below 694 MHz (national roadmaps). These recommendations were all incorporated in Decision (EU) 2017/899, in Commission Implementing Decision (EU) 2016/687 and by Member States (national roadmaps). Few Members are still under process to deliver 700 MHz WBB authorizations in that band (see progress reports to RSPG on State of play regarding award of 5G pioneer bands) **and other Members have already delivered 700 MHz WBB authorizations in that band, but the SDL remained unassigned in most of them.**

....

The importance of DTT and the need to provide certainty for investments are reflected by recommendations 8-10, which aimed to define a stable framework for the use of the sub-700 MHz band, with a time horizon beyond 2030, and at the same time offering the possibility of national flexible use of the frequency band for WBB downlink: Member States wishing to do so are allowed to use the band for services other than DTT, **although no one has yet implemented it**, provided that the needs of DTT both within the Member State and in neighbouring countries are not prejudiced. This is without prejudice to coordination agreements with the neighbouring countries. These recommendations were implemented in Article 4 of Decision (EU) 2017/899.

3 Existing Flexibility

3.1 Article 4 of Decision (EU) 2017/899 – main points

3.1.1 Geneva 2006 Agreement (GE06) – Envelope concept

The UHF band is regulated in Region 1 by the GE06 Agreement which is a fundamental pillar of the regulatory framework alongside Decision (EU) 2017/899. GE06 will continue to apply to this band beyond 2030 and that should be reported explicitly also in the text.

CRTV suggests modifying the first sentence as follows.

The Geneva 2006 Agreement (GE06) was the outcome of the Regional Radiocommunication Conference (RRC-06) for planning of the digital terrestrial broadcasting service in Region 1 (excluding Mongolia) and in Iran, in the frequency bands 174-230 MHz and 470-862 MHz. **GE06 Agreement will continue to apply also after 2030.**

CRTV suggests explicitly refer also to Declaration 42 of the GE06 Final Acts and proposes to modify the third sentence.

The **GE06** “envelope concept” relies on the equivalence of spectral power density, allowing the notification of assignments to the Master International Frequency Register (MIFR), corresponding to a digital plan entry in the GE06 Plan, with characteristics different from those appearing in the Plan (i.e. other than T-DAB or DVB-T), for transmissions in the broadcasting service or in other **primary** terrestrial services, provided that such assignments meet **a number of the following conditions that are summarized hereafter. Moreover, based on Declaration 42 included in GE06 Final Acts and signed by several Administrations including all EU-27 Member States, the “envelope concept” can be extended to any type of terrestrial service irrespective of whether or not it has a primary status in the ITU-RR.**

CRTV suggests modifying the last sentence at the end of page 9 as follows.

~~In addition~~ **As already mentioned**, the GE06 Agreement includes Declaration 42, signed by several Administrations, including all 27 EU Member States.

CRTV suggests modifying the last sentence of section 3.1.1 as follows.

This implies that assignments ~~stemming~~ **resulting** from their digital entries in the GE06 Plan, for terrestrial services other than broadcasting, may be registered in the MIFR (irrespective of whether the service has a primary status in the Radio Regulations), provided that they respect the interference envelope derived from the characteristics of the corresponding digital Plan, and that **for** any such use ~~will be~~ **they guarantee** ~~afforded~~ the same protection **envisaged for** ~~as that afforded to~~ digital entries in the GE06 Plan, considering any bilateral agreements on the matter.

3.2 Article 4 of Decision (EU) 2017/899 – Current status of implementation and evaluation

The LTE-based 5G Terrestrial Broadcast, abbreviated to “5G Broadcast”, is an application of the Broadcast Service, as stated by the draft Opinion, and therefore in strictly regulatory terms, it does not constitute an Article 4 case. The draft RSPG Opinion clearly states this in section 3.3.2. CRTV suggests modifying the second sentence as follows.

Further to the regulatory aspect, flexibility under Article 4 has not yet been implemented at national level and therefore there is no experience at cross border level either. **Trials on flexibility under Article 4 such as SDL** ~~(SDL, 5G Broadcast)~~, described in Annex III, **if any**, have been done at national level, in isolated locations but not all over the country.

3.3 Existing technical solutions – Opportunities and limits

3.3.1 Supplementary Downlink (SDL) implementation

3.3.2 5G Broadcast

The reference to supported bandwidths should be modified, please modify the third sentence as follows.

The existing 8 MHz TV channels in the UHF band which are used for DTT in the framework of the GE06 Agreement (or currently partially unused in some countries) can be used for 5G Broadcast transmissions under the “envelope concept”. ~~The supported bandwidths for LTE Based 5G Terrestrial Broadcast are 1.4, 3, 5, 10, 15 and 20 MHz. To cope with the GE06 frequency plan and the used channel raster, additional bandwidths of 6, 7 and 8 MHz are currently under discussion in standardisation for 5G Broadcast.~~

To cope with the GE06 frequency plan and the used channel raster, the bandwidth of 8 MHz has been, among others, recently approved by 3GPP and standardized by ETSI.

As already reported, 5G Broadcast is a broadcast application. Therefore, CRTV is confident that 5G Broadcast would generate interferences, if any, to DTT fixed reception which are manageable with mitigation measures and solutions currently applied to DTT networks. For this reason, CRTV suggests modifying the third bullet items on page 11 as follows.

- Under the GE06 Agreement, the sub 700 MHz band is currently based on 8 MHz channelling, so that it would be more efficient for 5G Broadcast to use the same channelling.
- DTT spectrum planning based on High Tower/High Power allows cost-efficient provision for fixed roof-top reception deployments, in which high quality services can be provided with low level of signal in the edge of the coverage areas. This configuration, however, does not enable to have sufficient received field strength, necessary for a good mobile reception (e.g. in 5G Broadcast from smartphones, tablets etc.), which has to overcome the intrinsic limitations of portable devices and higher variability of the signal strength. In these scenarios denser network will be needed, similarly to WBB ECS networks (this means using a deployment based on low/medium power/towers).
- An interleaved spectrum usage of DTT roof-top reception and 5G Broadcast **would might** generate interference from 5G Broadcast to DTT fixed reception, ~~as shown in the 700 MHz and 800 MHz bands,~~ if 5G Broadcast is deployed over a dense network (low tower). To mitigate this interference, **measures and solutions currently applied to DTT networks could be used** ~~filtering would need to be installed after the DTT receiving antenna. In opposite to the 700/800 MHz cases, the use of interleaved spectrum will require filters adapted to the local circumstances (i.e. local DTT channels), which would imply cost and technical challenges.~~

3.3.3 Dedicated band for use by the mobile service with uplink - 600 MHz band plan implementation

CRTV doubts that a dedicated band for use by the mobile service with uplink – 600 MHz band plan implementation – may be considered an Article 4 case for many countries, including those bordering with Italy, due to many cross-border negotiations that would be needed with neighbouring Administrations.

For the aforementioned reasons, CRTV suggests modifying the first sentence as follows.

In order to permit the use by the mobile service with uplink, there would be a need to repurpose a dedicated part of the band. This approach was applied in a number of non-EU nations, including USA and Canada, for the **entire** 600 MHz band. ~~As~~ **A possible** assessment of the implementation of flexibility is provided in this section, according to Article 4 of Decision (EU) 2017/899, by applying this approach in a European country, **but considering that this approach may be of difficult application (or even not applicable) in many European countries, due to coordination issues with all neighbouring countries.**

Moreover, CRTV suggests modifying the seventh and eighth sentence as follows.

In the case that an EU Member State is wishing to implement the 600 MHz band plan **(or a portion of it)** nationwide, thus including its border, under the flexibility conditions of Article 4, ~~no~~ **any constraint or harmful interference** should **not** be caused on the operations of DTT in neighbouring countries **and the (new) mobile service cannot claim protection from DTT services in neighbouring countries. Moreover, the portion of the band to be used for this purpose has to be agreed between the interested countries, e.g., as a part of a specific bilateral/multilateral agreement or as a further integration of an existing one.** In figures, five channels, i.e. 39 to 43 (614-654 MHz) ~~will~~ **could** be used to cover the 617 – 652 MHz downlink band and another five channels, i.e. 45 to 49 (662-702 MHz) ~~will~~ **could** cover the 663 – 698 MHz uplink band. Considering that channel 49 is already used in Europe for one PPDR block in the 700 MHz band plan, a total of nine channels will be used exclusively by this country, reducing the channels available for its broadcasting usage from 28 to 19, including channel 38 used for radio astronomy and channel 44 in the duplex gap. Since the neighbouring country should keep its rights for broadcasting (i.e. 50% of the initial capacity, namely 14 channels), it means that the Member State wishing to implement a 600 MHz plan would keep only about one third of its initial broadcasting capacity at the border. Outside coordination areas, more capacity would remain available for broadcasting.

The aforementioned procedure is only indicative and should not be intended as a constraint for the interested administrations.

3.3.4 Dynamic Spectrum Access (white spaces)

3.4 Conclusions

In line with comments in section 3.3.2 CRTV propose the following modification in the second bullet items list.

- Implementing mobile SDL (in line with the recommendation of the previous RSPG15-595 FINAL Opinion). Two options have been identified: a first one, in the interleaved spectrum of the broadcasting of the Member State avoiding a re-planning and cross-border effort; a second one, with a dedicated SDL block of spectrum, avoiding adjacent channel interference issue with fixed reception broadcasting but requiring a significant replanning and cross-border coordination efforts with neighbouring countries. The approach of “mobile SDL” is compatible with the GE06 envelope concept.
- 5G Broadcast. There is no impact on cross-border coordination with neighbouring countries having traditional DTT networks, ~~taking into account the envelope concept. However, if 5G Broadcast is deployed over a dense network (Low Tower), 5G Broadcast may generate interference to DTT fixed reception in adjacent channels as shown in the 700 MHz and 800 MHz bands (DTT/mobile coexistence) and the option of a dedicated block of spectrum may be preferred requiring a significant replanning and cross-border coordination efforts with neighbouring countries. The approach of 5G Broadcast is compatible with the GE06 envelope concept.~~
- Implementation of a full FDD band plan, such as the 600 MHz band plan including uplink transmission. The flexibility (**Article 4**) for a Member State to implement in practice such a plan raises significant impact on cross-border coordination, considering the remaining broadcasting use in neighbouring countries, in accordance with the priority given to broadcasting.

4 Possible and technically feasible scenarios for post 2030

4.1 Short overview of the TV landscapes evolution

This section should highlight different EU countries trends in TV landscape evolution, considering the availability of different platforms for the distribution of free-to-air linear contents on a universal basis, linear vs. non-linear contents availability and suitability of non-linear contents for different devices respect to TV sets.

For these reasons, CRTV proposes a new second sentence and a rewording of existing second and third sentence.

Different EU countries trends need to be considered in TV landscape evolution: a) linear vs non-linear contents availability; b) platforms and devices used to watch linear content (i.e. TV sets); c) non-linear content suitable for alternative platform and different devices (i.e. smart phone and tablet).

In some Member States, **in addition to DTT are available other platforms to provide free-to-air linear content on a universal basis. On the other hand, it is undoubtful that there is an increasing in the access of non-linear contents, especially from younger generation, which are using alternative platforms and alternative devices such as smartphone and tablet** ~~since the rise of cable TV, DSL (IP TV) and later fibre optics, fixed broadband access has increased and is offering a possible alternative to DTT, under different access conditions.~~ Such alternative subscription based **(SVOD) or advertising based (AVOD)** services offer various media contents through fixed broadband. In some cases (including Belgium, the Netherlands, Sweden, Finland and Malta), this has led to a decrease in the use of DTT. This trend is expected to have an impact on media distribution in the coming years, as media publishers could begin to prioritise the use of alternative platforms that are already prevalent in these Member States. New distribution media could be needed in these cases, in addition to DTT in the 470-694 MHz band, as discussed in Section 4.3.2. Nevertheless, this situation regarding media consumption patterns, evolution of DTT services and availability of high-speed internet connection varies from country to country and across generations.

However, in other Member States the usage of free to air DTT is still very significant **with no alternative platform to distribute free-to-air contents on a universal basis** and in a large number of EU Member States there is no visibility on short term reduction of DTT spectrum needs, due to a number of factors (see Section 4.3.2, Scenario 1). Representative cases are, for example, those of Spain, France, **Italy**, Poland and Croatia where, ~~despite the extensive~~ **or forecasted** fibre optic fixed broadband network, DTT continues to be one of the most used platforms.

4.2 Drivers for future scenarios

In the UHF band, any new allocation foreseen after 2030 needs to be carefully assessed. This means that there is the need to achieve an effective usage of the frequencies from 694 to 960 MHz before any new allocation to mobile service is done. Moreover, the actual implementation of Article 4 flexibility for frequencies 470-694 MHz needs to be assessed.

As stated in the draft Opinion “*In the case that a Member State recognises a decrease in broadcasting needs, the implementation of Article 4 (flexibility under conditions) would allow to use the spectrum, at national level, by the end of 2030, according to its needs. The fact that no Member State has implemented Article 4 by now, limits the possibility to practically evaluate the situation.*” This means that broadcasting needs are not decreasing in many Member States.

On the other hand, the requirements of the mobile sector are changing, and this will be even more true after 2030. The mobile sector is requiring large contiguous blocks of spectrum and there will be limited demand for further assignments of 2x5 or 2x10 MHz as previously happened for 800 and 700 band. Therefore, the real need of the mobile sector is not a new allocation, but a better use of existing allocated frequencies.

Moreover the mobile sector’s storytelling refers to sub-700 MHz band for connectivity “*covering also sparsely populated areas and reaching “deep-indoor”*”¹. This was the same claim used for 700 MHz and 800 MHz band allocation to IMT applications. 700 MHz and 800 MHz bands are more than sufficient to cover these needs, without any new allocation.

To similar conclusions the result of the White paper on behalf of Digital UK² that proposes to create a “*defragmentation dividend*” by reconfiguring 694-960 MHz band to make additional capacity available to mobile services instead requesting the broadcasting band 470-694 MHz disposal.

In some Member States the importance of broadcasting for information and content delivery on a universal basis and without profiling – representing a fundamental means for the protection of pluralism and democracy - is proving to be not replaceable and 470-694 MHz represents the only frequency band available.

For these reasons CRTV proposes the following modifications to the second, third and fourth sentences.

From a spectrum management point of view, one element to be considered is the need to achieve an effective usage of the **UHF470-960** ~~694~~ MHz band, respecting the different needs of Member States. Currently, the only common basis for the alternative usages to

¹ “Spectrum, inclusion and sustainability: why WRC-23 matters” - By Xhoana SHEHU, Policy Manager, ETNO – July 2023

² White paper on behalf of Digital UK - November 2017 AETHA “The defragmentation dividend - A more efficient use of the UHF band”.

DTT and audio PMSE is the existing EU framework. In the case that a Member State recognises a decrease in broadcasting needs, the implementation of Article 4 (flexibility under conditions) would allow to use the spectrum **470-694 MHz**, at national level, by the end of 2030, according to its needs. The fact that no Member State has implemented Article 4 by now, limits the possibility to practically evaluate the situation.

In the present opinion, RSPG identified various drivers, including non-spectrum ones, which may impact future scenarios. Some of them are the diverse requirements in broadcasting and PMSE needs among the EU Member States, the impact of cross border coordination including at EU borders, the expected change in viewing habits, the competition from other technologies, the evolution of investment in DTT, the expiry of DTT authorisations (settled typically for 10-15 years) and their likely extension, the impact of digital 2030 targets, sustainability and energy consumption, ~~and~~ the public service broadcasting (free to air) **and the relevance of maintaining in some EU Member States beyond 2030 a non-profiling technology for the benefit of pluralism and democracy.**

An important element that needs to be considered, when describing future scenarios, is the aim to achieve an effective usage of the **UHF** ~~sub-700 MHz~~ band in each Member State, balanced with the need for cross border coordination, arising from the co-existence of different scenarios in neighbouring countries.

4.3 Possible and technically feasible scenarios including consequences on EU harmonization framework

4.3.1 Possible long-term future developments, and their drivers

CRTV fully shares RSPG Opinion stating that any alternative to broadcasting and PMSE usage of the sub-700MHz band, in EU Member States, remains a national political decision and it is essential to consider that any relevant regulatory framework on the EU level may have significant impact, i.e. limit or strengthen, Member States' abilities to individually implement any of the scenarios outlined by the Opinion.

Scenario 1: Prevalent broadcasting

Please note that IPTV means a guaranteed quality of service IP technology network. For this reason, it is suggested to modifying the fourth sentence as follows.

Driven by this increasing integration, on one hand the evolution of DTT technologies (e.g. video encoding upgrades, UHD) could continue; on the other hand, also driven by the objectives of the EU Digital Decade and the various national plans to deploy fibre, the

penetration of **streaming and on demand IPTV** could also increase as the speed of the Internet available to the end user increases. The possibility of using shared standards for **streaming and on demand IPTV** could also define its ability to be embedded in receivers rather than stacking another powered electronic device that increases energy and recycling bills.

Scenario 2: Broadcasting (DTT and 5G Broadcast), Mobile limited (SDL)

Scenario 3: Broadcasting limited, Mobile (Full FDD band plan)

It should be specified that also this scenario relay on Article 4 of Decisione (EU) 899/2017.

Moreover, CRTV suggest eliminating any reference to 5G Broadcast from this section since it is a broadcasting application.

For these reasons CRT suggests modifying the first and second sentences as follows.

In this scenario, there is less (up to no) need for broadcasting in the 470-694 MHz in a given country, which gives the opportunity for introduction of, for example, mobile broadband by implementation of the 600 MHz band plan, including uplink transmission, **under Decision (EU) 899/2017 Article 4**. This would also mean that the national solutions for the PMSE usage in this band may be in place, though less spectrum will be available. The coordination efforts needed for this scenario may be challenging, depending on the overall situation. Complexity may remain at the border of EU for implementing this scenario.

Access to linear audio-video content could in most cases take place via means other than DTT: fixed broadband, satellite, FWA, Multichannel Multipoint Distribution Service (MMDS), or cable TV ~~or 5G Broadcast~~, **with possible bottle neck for non-broadcast distribution media.**

4.3.2 PMSE

5 Recommendations

5.1 Considerations on existing flexibility until 2030

CRTV considers that a harmonised implementation of a mobile band plan including uplink (e.g. 600 MHz) is not possible in the European Union even beyond 2030 for all the reasons described in this contribution. For this reasons CRTV proposes the following modification to point 1

RSPG notes that a harmonised implementation of a mobile band plan including uplink (e.g. 600MHz) up to 2030 is not possible **and very difficult to implement** in the European Union **even beyond 2030 due to economic, social and cultural implications**. Possible national initiatives, such as 600MHz band plan, appear complex to implement due to constraints to be addressed/solved in cross border coordination (see section 3).

CRTV suggests specifying under point 2 the reference to the actual implementation of flexibility under Article 4 of 899/2017 Decision.

2. As the **actual** implementation of flexibility under conditions **of Article 4 of Decision (EU) 899/2017**, at least till 2030, will be a driving parameter for the future decisions on the issue, RSPG is of the view that the Member States should explore circumstances, in partnership with neighbouring countries, of flexibility near their shared border.

5.2 Recommendations on possible technically feasible scenarios for post 2030

N. 3 The debate on the long-term use of the 470-694MHz beyond 2030 shall consider all related factors. As recognised in Article 7 of the Decision (EU) 2017/899 and in RSPG15-595 FINAL Opinion, among others, the social, political, cultural, economic, environmental and general interest aspects are to be considered. Reading all recommendations, it is missing a recommendation recognising the sovereignty of Member States to decide to continue to deliver DTT services according to their needs. To balance the recommendations and according to proposed scenario 2 and 3, CRTV suggests that such a recommendation should be on the list.

3. RSPG recognises the possibility that, for the use of the 470-694 MHz band, a single scenario may not be applicable to all Member States. **Moreover, RSPG recognises that the debate on the strategy on the future use of the frequency band 470-694 MHz beyond 2030 in the EU shall consider the social, political, cultural, economic, environmental and general interest aspects and also recognises that Member States are sovereign to decide to maintain broadcasting services according to their national needs.** Therefore, RSPG recommends any future EU regulatory action to facilitate, to the extent feasible, the implementation of various scenarios among Member States, emphasizing the pursuit of compatible uses and focusing on the means to achieve them. Any regulatory action should also take into account the possible uses, already enabled by the implementation of Article 4.

N. 4. It is not a RSPG recommendation and for this reason CRTV suggests eliminating it.

~~4.RSPG recognises that, in the border areas of EU, successful coordination negotiations could rely on spectrum regulation at ITU-R level.~~

N.8 Broadcasting reception plays a key role on the audio-visual and public policy in most of the European Member states. Indeed, broadcasting services had dramatically evolved during the last 15 years keeping their key public policy assets: being the main source of free to air audio-visual contents, including public service, guarantying the accessibility of all citizenship and providing almost universal coverage. This public policy contribution needs to be considered and Member states shall keep the sovereignty to decide keeping broadcasting services on air. CRTV considers of relevance to highlight that any innovation and improvement of the broadcasting services needs to carefully take into consideration the impact on citizens, moreover on those with less resources. The evolution of the DTT services always have been inclusive and did not let anyone behind.

8. RSPG recognises that the evolution of UHF band broadcasting reception during the current decade, including factors such as the number of programs, the content format (HD/UHD) and technological advancements (e.g., DVB-T2/HEVC, 5G Broadcast) plays a role in shaping any timeline post 2030. Further, any decision on these factors is a national matter determined by market demand, **consumer equipment, sustainability, audio-visual and public** policy. Nevertheless, RSPG recommends that Member States wishing to continue to use sub-700 MHz band primarily for broadcasting, strive to implement most efficient technologies (such as T2/HEVC).

N. 9 It is not a RSPG recommendation and for this reason CRTV suggests eliminating it. Moreover, CRTV retains that any possible review at ITU level should be envisaged not before WRC-31 to keep certainty for long term investments.

~~9.RSPG believes that any outcome of WRC-23 concerning the sub-700 MHz frequency band should not be considered as prejudicing or constraining any later EU choice or decision on the European legal framework in this band.~~