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Comments from Yle 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

Yle welcomes the opportunity to provide comments on the draft RSPG Opinion on Strategy on the future use of the frequency band 470-694 MHz beyond 2030 in the EU.

A. Facts about Yle

Yle, the Finnish Broadcasting Company, is Finland's national public service media (PSM) company. Finland is a very sparsely populated country, having the **lowest population density in the European Union**.

Yle operates three national television channels and six nationwide radio channels, complemented by regional radio stations. Currently, TV channels delivered over the broadcasting networks dominate the consumption of video content published by Yle. In addition to its TV and radio channels, Yle publishes linear video and audio, as well as VOD and AOD content through online services. See more details at https://yle.fi/aihe/artikkeli/about-yle/this-is-yle.

Yle's operations are financed by a public broadcasting tax. The company is supervised by an Administrative Council, appointed by the Parliament of Finland.

Yle has a **legal obligation** to serve the entire Finnish audience with diverse audiovisual and other content. Our legal remit means that the **entire Finnish audience needs to have access to the full selection of our media content**.

B. Yle's views on the changing consumption & delivery of audiovisual media and usage of 470-694 MHz (sub-700 band)

B.1 Internet publishing will become our main publishing platform

We expect the share of linear video and VOD viewing through our online services to increase significantly in the future. In addition to changing user preferences, changes in the device base for video consumption are also leading to changes in video consumption. The number of non-broadcast video receivers has already exceeded the number of broadcast receivers. We estimate that the share of video content viewing through IP-enabled screens will, over time, surpass viewing through broadcasting receivers.

We foresee that internet publishing will become the main publishing platform of our company by approximately 2026-2028. During the coming years, the decisive battle for audience attention will take place on the internet, not in broadcasting networks.

Even though the linear prescheduled channels through broadcasting networks will still bring the majority of viewing and listening minutes for several years, the broadcasting delivery will gradually move to a limited role, as **a major part of Yle´s**

content will not be available through broadcasting networks. In terms of radio network technology, this means that the high-power high tower downlink-only DVB-Tx or 5G **broadcast networks on sub-700 band cannot serve the Finnish audience sufficiently**, as Yle´s entire content selection cannot be reached through broadcasting networks.

Fibre networks will not cover all Finnish households, as fibre investments are not profitable in our sparsely populated areas. Therefore, broadband access in rural areas will be based on wireless networks.

The peaks of live video viewing will remain or perhaps even increase, so the risk of insufficient capacity of broadband networks will exist, especially in mobile networks in rural areas.

Yle needs to ensure that the full range of content is available to the entire audience during peak viewing times via fixed and mobile broadband networks. The key challenge is to ensure **wireless broadband capacity** during **peak viewing times** in **rural** and sparsely populated **areas**. Sufficient wireless broadband capacity in rural areas also requires **sufficient sub-700 capacity**.

B.2. Only broadband networks can serve the audience with a full selection of audiovisual content

Internet publishing platforms and content delivery over fixed and wireless broadband networks will replace the role of the broadcasting tv-channels as Yle´s primary video publishing service. Yle´s video offering contains several publishing formats, of which all are available only through the internet. Pre-scheduled **tv-channels over broadcasting networks do not contain the complete public service media content,** which needs to be available for the entire audience:

1) Pre-scheduled tv channel as a publishing format will remain beyond the foreseeable future.
- The number of pre-scheduled tv channels will decrease and the broadband networks are also able to carry the pre-scheduled tv channels.

2) Non-pre-scheduled live video streams will develop as a more important part of Yle´s content offering
- these are not available through broadcast networks.

3) The viewing share of the video-on-demand catalogue and catch-up publishing will increase further
- these are not available through broadcast networks.

In addition to the above, new publishing formats for broadband delivery may also evolve over time.

To combat disinformation and misinformation on the Internet, reliable journalism must be available on Internet services. The provision of broadcast television does not combat the spread of misinformation on the Internet. Ensuring the **intellectual resilience of European societies** requires the provision of a **wide range of public media content on the Internet**.

B.3 Open internet delivery over the best effort networks is “the new normal” for media delivery

Currently, broadband subscribers are paying the costs of linear tv-channel and VOD delivery over broadband networks. The **substance of traditional free-to-air (FTA) - access has changed** to “non-surcharge access” or “free at the point of use”. PSM content and other **public services are available over the open Internet**, provided that **citizens pay for their broadband subscriptions in the same way they pay their electricity bills.**

Broadband publishing allows for more publishing formats and a greater number of titles for different audiences than broadcast publishing. This means that broadband publishing and distribution allows for more diversity than broadcast distribution. The broadband publishing market is also more competitive than the broadcast publishing market, and more competition means better quality content for audiences.

B.4. The exact timing of this broadcasting-to-broadband media distribution shift is uncertain

Media audiences are gradually shifting from broadcast networks to broadband networks due to the introduction of better media services delivered over broadband networks. TV companies and broadcast network operators are expected to adapt more quickly to market changes. When broadcast distribution of TV channels becomes unprofitable, TV companies quickly shift distribution to broadband networks, even if part of the audience still wants to use broadcast networks. This leads to a decision by the broadcast network operator to close its network.

Although the exact timing of this broadcasting-to-broadband media distribution shift is uncertain, it's **imperative for frequency regulation to flexibly adapt to the rising mobile broadband capacity demand**. This adaptive capability implies that **frequency regulations should be designed for genuine flexibility.**

The regulatory framework should provide predictability for the planning of public services provided over the Internet. The **rules that will apply in 2030-2035 must be known by 2026 at the latest**.

B.5. Audiovisual media delivery through broadband networks is a tool to achieve the Digital Decade goals

The “2030 Digital Compass: the European way for the Digital Decade” defines the goal for the digital infrastructure: “By 2030, all EU households should have gigabit connectivity and all populated areas should be covered by 5G.” This **goal requires** both supply of broadband networks (i.e. investments) and **demand for broadband subscriptions**.

A well-managed and planned transition of media content delivery from broadcasting to broadband networks **creates a demand** for high-speed broadband subscriptions, thus **justifying** the needed network **investments. Broadband delivery of audiovisual media** can thus also be **a tool** for European governments **to achieve the goals of the Digital Decade**.

B.6. Audiovisual media delivery through broadband networks as a tool to improve the resilience of European societies

All vital functions of Finnish society are currently based on broadband network communications. The resilience of modern society requires that the broadband infrastructure is redundant, i.e. protected against power failures and external interference.

Distributed broadband network infrastructure has a lower risk of total failure than broadcast network infrastructure with sparse transmitters. However, current broadband networks require better power redundancy and duplication of critical core network elements. After improving the redundancy of broadband networks, the migration of media content delivery from broadcasting to broadband networks increases the resilience of society.

Internet services for public service media can be built secure by using Internet protocols to verify the sender of the message. Broadcast transmissions do not have the same possibility to reliably identify the sender, so in a crisis situation an attacker can spoof the content of broadcast transmissions.

B.7. The supply of PMSE equipment will adapt to new spectrum band and radio technologies

The market supply of audio PMSE, i.e. wireless microphones, must and will be able to adapt to changes in the available spectrum. Over time, new frequency bands and radio technologies will replace the current analogue wireless microphones in the UHF band. **An early decision would give a clear signal to PMSE manufacturers and users to develop and invest in new technologies.** A sufficient transition period is needed to avoid premature replacement investments in new audio PMSE technologies.

C. Yle's comments on Draft RSPG Opinion on the future use of the frequency band 470-694 MHz beyond 2030

C.1. Section "4.2 Drivers for future scenarios"

The draft opinion states as follows (underlining added by Yle):

"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)."

Yle comments the above underlined words as follows:

"the evolution of investment in DTT"

- DTT platforms deserve only maintenance investment, not new investment, given the limited remaining lifetime of DTT platforms and DVB-Tx technology

"sustainability and energy consumption"

- The differences in electricity consumption between broadband and broadcast networks will become less important as Europe's electricity production shifts to zero-emission wind, solar and nuclear power.

"the public service broadcasting (free to air)."

- As explained in section B.3. above, the traditional free-to-air (FTA) -access is losing its relevance for public media service. PSM content, like all other public services, is available via the open Internet, provided that citizens pay for their broadband subscriptions, just as they pay for their electricity bills.

C.2. Section "4.3.1 Possible long-term future developments, and their drivers; Scenario 1: Prevalent broadcasting"

The draft opinion states as follows (underlining added by Yle):

"*broadcast networks, including DTT, provide national resiliency and redundancy in case of crisis, natural disasters and/or cyberattacks*."

Yle comments the above underlined words as follows:

- We disagree with the above based on our experience and information from the Ukrainian war.

- As explained in Section B.6. above, broadband technologies offer better resilience and redundancy than broadcast technologies, provided that power redundancy and duplication of critical core network elements are in place.

Yle proposes that this underlined sentence be deleted.

C.3. Section "4.3.1 Possible long-term future developments, and their drivers; Scenario 3: Broadcasting limited, Mobile (Full FDD band plan)"

Yle finds this Scenario 3 most likely in Finland.

Yle hopes that the **RSPG will set a target to enable this Scenario 3**, so that Member States can choose and implement it if they wish. As explained in Section B.4. above, the implementation of Scenario 3 requires regulatory decisions and certainty well before 2030, but no later than 2026.

The draft opinion states as follows:

"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), cable TV or 5G Broadcast."

Yle suggests adding 4G & 5G **unicast mobile broadband to the list.** In countries where unlimited data plans are available at reasonable prices, such as in Finland, unicast mobile broadband is a relevant alternative for receiving audiovisual content.

The draft opinion states as follows:

"Moreover, on a national scale, progressive reduction of DTT usage may reach a point in a given country where broadcasters could question the viability of their business model."

Yle proposes that also **broadcast network operators** will be **added** to the sentence: *"… in a given country where broadcasters or broadcast network operators could …"* As explained in section B.4. above, when broadcast distribution of TV channels becomes unprofitable, TV companies quickly shift distribution to broadband networks, even if part of the audience still wants to use broadcast networks. This leads to a decision by the broadcast network operator to close its network.

C.4. Section "5.2 Recommendations on possible technically feasible scenarios for post 2030:"

The draft opinion states as follows (underlining added by Yle):

"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. 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."

Yle hopes that the **RSPG will set a goal to enable this Scenario 3**, so that Member States can choose and implement it if they wish. We emphasise that the implementation of Scenario 3 requires **regulatory decisions** and certainty well before 2030, but **no later than 2026**.

Yle suggests that this goal could be indicated by **deleting the words "to the extent feasible".**