



ETNO comments to the RSPG Draft Work Programme for 2024

December 2023



The European Telecommunication Network Operators' Association (ETNO) welcomes the opportunity to provide feedback to the Radio Spectrum Policy Group (RSPG) Draft Work Programme 2024.

ETNO welcomes the planned work items that have potential to support meeting the Digital Decade targets and the increasing society demands for mobile communication in future. We note that active involvement of stakeholders is important and would welcome regular stakeholder involvement on the various work items. Active participation of RSPG members in the stakeholder events would be appreciated, otherwise the events easily become a forum only between stakeholders. Moreover, debriefings after the plenary meetings could help increasing mutual understanding and agree on a way forward to support best-in-class digital infrastructure deployment.

Europe has a huge investment gap in telecom networks and services (€174 billion as estimated by the European Commission¹), in conjunction with overall declining or flat revenues in the sector, returns below the cost of capital, weak market valuations and high levels of debt. Spectrum policy is a critical to support investment in the sector. It also plays a role in addressing challenges related to climate change.

Thus, we propose that RSPG considers economic and environmental impact analysis as a core part of their opinions. We note that the RSPG opinions and recommendations are not backed up or justified by analysis on socio-economic benefits. We also note that the climate-related work has so far been a separate activity, and not concretely linked to the other opinions and recommendations.

1. Peer review & Member States cooperation

We understand that the Peer Review process is primarily established to facilitate exchange of views and peer learning among member states. However, so far we have not seen clear justification on how this has contributed in spreading “best practices” within the European Union (EU). We also note that sometimes specific award is discussed in the group quite late considering the planned timeline of the award. In such cases, there may not be real willingness or even possibility to consider possible changes proposed by the peers.

ETNO highlights that spectrum holdings, their costs, and long-term predictability is crucial for ensuring investments and investors' interest for the mobile sector in the EU. Thus, **we would like to suggest below some areas of improvements:**

1.1 Identify “best practices” for key areas in licensing, including:

- **License renewals:** early review (at least 5 years before expiry), priority for prolongation/perpetual licenses (justification needed for re-auction), examples e.g. Spain, United Kingdom, Estonia

¹ Exploratory consultation - The future of the electronic communications sector and its infrastructure, European Commission, February 2023

- **Awards procedure:** Reserve prices should be based on opportunity cost (EECC art. 42), Maximizing revenues should not be an objective of award processes (EECC art. 55), Market shaping measures should be justified with a market analysis (EECC art. 52)
- **License costs:** moderate reserve prices, minimize annual costs, avoid short comings (artificially high prices, unsold spectrum, inefficient set-asides)
- **Obligations:** requirement to justify with socio-economic analysis, obligations beyond market demand to be supported, e.g. discount to license price.

1.2 Annual reports' benefits

We believe that annual reports shall clearly bring up the achievements and benefits of the process by answering the following questions:

- How the peer review has contributed towards spreading “best practices”?
- What are the plans for further work on establishing the “best practices” in RSPG and in Member States (e.g. upcoming awards)?

1.3 Transparency and involvement of stakeholders

Operators are key stakeholders for the mobile spectrum awards. Thus, we would appreciate more transparency to this process, and the possibility to provide timely constructive proposals to specific auction plans, not only after the auctions. For example, a possibility for stakeholders to raise the issues on a specific award and request e.g. Stakeholder Award Workshop (followed by a Peer Review Forum) in a specific auction might be something to consider.

ETNO welcomes stakeholder workshops on awards and other spectrum related matters, however it has often felt like a one-way communication channel, where stakeholders present views and debate among themselves. We believe stakeholder workshops would benefit from having more input from, and a real exchange of views, with RSPG members during the workshops.

2. Long Term vision of the upper 6 GHz (2030 and beyond)

ETNO agrees with the RSPG on using the Digital Decade objectives as the standard to assess the different options for the 6425-7125 MHz. We also agree with the RSPG on having a long-term perspective on this topic, noting the primary goal to maximise the contribution to the digital decade targets.

The frequency range 6425-7125 MHz would enable efficient macro deployment, and thus support affordable and sustainable mobile communication. Below we bring up aspects that should be considered in this work.

2.1 IMT demand

The frequency range 6425-7125 MHz is of particular importance for the mobile operators since it uniquely delivers both coverage and capacity for mobile networks across cities and other networked areas. Additional mid-band spectrum is required to support and evolve mobile services to meet the society demands in an economically and environmentally sustainable manner. Mid-band spectrum need for IMT is estimated to be in total about 2 GHz within 5-10 years.² In European countries, the current mid-band spectrum availability is less than 1 GHz. It is estimated that 40% of the expected socio-economic benefits of mid-bands 5G could be lost if no additional mid-bands spectrum is assigned to mobile services.³

Mobile operators are experiencing around 30% annual growth in traffic^{4,5}. European operators have confirmed that 5G networks in cities will begin to experience service-impacting capacity limitations towards the end of the decade without additional mid-band spectrum.

2.2 Benefits of 6 GHz for macro deployment

- **Coverage and performance:** Various trials have demonstrated that advanced 5G technologies can deliver coverage levels in the upper 6 GHz band that is comparable to what is achievable today in the 3.6 GHz band deployments, while using the existing macro-cellular base station grids. Capacity can be improved in both outdoors and indoors. We expect mobile data demand to increase in both areas, and note that around 75% of all IMT mobile traffic originates from users in indoor environments.
- **Affordable mobile communication:** The cost-benefit analyses conclude that allocating the upper 6 GHz (6425-7125 MHz) to licensed mobile networks will deliver greatest economic benefits in countries where even very high Wi-Fi demand (fibre to premises is widespread and supports over 10 Gbps user speeds)⁶. Allocating this band for licenses mobile networks will support the EU delivering digital decade targets and meeting continuously increasing demand while having affordable mobile connections for citizens.
- **Sustainable mobile communication:** A study indicates that with the upper 6 GHz it would be possible to reduce carbon emissions by at least 2.9 times compared to the alternative of extreme IMT network densification⁷.

2.3 Shared framework / Wi-Fi demands

² [Vision 2030: Insights for Mid-band Spectrum Needs, GSMA, July 2021](#)

³ [GSMA report on the socio-economic benefits of mid-band 5G services](#), Feb 2022

⁴ "Ericsson Mobility [Report](#)", June 2023.

⁵ "The Evolution of Data Growth: Evaluating the trends fuelling data consumption in European markets in Europe", [report](#), Arthur D. Little, May 2023.

⁶ "The socioeconomic benefits of the 6 GHz band; Considering licensed and unlicensed options", GSMA Intelligence [report](#), June 2020.

⁷ "Impact of additional mid-band spectrum on the carbon footprint of 5G mobile networks: the case of the upper 6 GHz band", Analysys Mason [report](#), June 2023.

Europe is currently considering a possible framework in the upper 6 GHz for sharing the band between IMT and Wi-Fi and is studying the topic within the CEPT. Preliminary studies by both industries indicate that **co-channel sharing between IMT and Wi-Fi may only be feasible subject to significant performance degradation for both IMT and Wi-Fi** due to measures such as power reduction, lower sensing thresholds for Wi-Fi, or the imposition of geographic restrictions. This would substantially decrease the value of the band for IMT and Wi-Fi and its useability.

In addition, **lower 6 GHz has already been allocated to WAS/RLAN in Europe**, providing 480 MHz additional mid-band spectrum basically for Wi-Fi. The allocation almost doubled the WAS/RLAN mid-band spectrum availability, and the band is not yet in extensive use.

Wi-Fi provides access to fixed broadband, and often it is the fixed broadband that limits the capacity. If additional capacity will be needed for wireless access to broadband in long-term future it can be provided with mmWave (Wi-Fi 8 technology) and Wi-Fi network planning within premises. It is not efficient to use this spectrum that has feasible propagation for macro deployments to short range connectivity.

3 6G Strategic vision

Europe has the ambition to be at the forefront in 6G research and, in due time, on deployment. In this context, it is important to recognise and consider spectrum demand for 6G in a timely manner.

In general, we would appreciate a clear roadmap on future spectrum availability in Europe. The spectrum should be awarded in a technology neutral manner, and we expect additional spectrum demands in mobile networks already before 6G deployment. Thus, the roadmap should define additional spectrum that could be used for 5G or 6G based on national demands. The assignment dates should be decided at the Member State level according to the market demand, but at the EU level it should be ensured that sufficient amount of spectrum is harmonized for IMT networks, and that each Member State efficiently awards the key harmonised spectrum bands for nationwide mobile networks.

We consider that the future roadmap should include:

- Upper 6 GHz
- Sub-700 MHz
- 3.8-4.2 GHz
- Consider demands, possibilities, approaches for higher bands: for above 6 GHz (in 7-15 GHz), mmW, even Terahertz

We note that the 5G roadmap was published in 2016⁸ and 5G technology was available for commercial use around 2020. As ETNO expects 6G technology to be available around 2030, we believe that a roadmap for 5G evolution and 6G should be published in an Opinion in 2025.

Our interest at the moment is primarily the possibilities for macro terrestrial networks to provide services broadly for the whole society.

⁸ RSPG Strategic roadmap towards 5G for Europe, 2016

Concerning the spectrum demands for local and vertical networks, it is important to balance the dedicated spectrum availability against different demands and recognise also the increased demand in public mobile networks. In this regard, the other approaches to support local demands should be considered, e.g. delivering the demand within public networks. We expect spectrum slicing to become a popular mean to support dedicated demands when 5G stand-alone networks become more widespread.

Satellite D2D/non terrestrial 3GPP communication, may provide benefits to complement terrestrial coverage, but it is important to note that in Europe the terrestrial coverage is already very widespread. Satellite licenses should be limited to spectrum that is allocated to the Satellite Services. It is important to ensure interference free operation for terrestrial networks, but also consider the fair market conditions, e.g. in terms of spectrum costs, noting that the solutions may also compete on providing similar services to the customers.

4 Assessment of future use of the 470-694 GHz

ETNO supports further work on this. We **urge the RSPG to use this opportunity to include a more detailed analysis and summary on the development of how the band is used for terrestrial provision of TV broadcasting services in different Member States**, and similar analysis of the other means to distribute TV content. As there are already today several parallel platforms in use to distribute and receive TV content (linear and non-linear), it would be appropriate to analyse the different means, their current availability, popularity, and expected development towards 2030. The analysis should also cover the evaluation on whether national media policies are neutral towards different content delivery means.

In addition, **more detailed analysis on possibilities and roadmap for introducing mobile communication in this band should be developed**, e.g. a map illustrating the DTT use, demand, and plans. This may support finding the solutions for early introduction of mobile communication in this band in some member states or a group of member states.

In general, ETNO thinks that the consideration of EU spectrum strategies for the future should be driven by the **broader EU policy contexts**. The European Union has agreed on Digital Decade targets for 2030 including gigabit connectivity in order to provide sufficient capacity to all end users. It would also serve TV content distribution and reception as demand for mobile broadband services is increasing also in sparsely populated areas and other areas which are difficult to reach with higher frequency bands. Additional availability of spectrum in the UHF band would support delivering these demands and would support targets for digital inclusion and equal digital opportunities, and provide better access to digital healthcare, education and media services in remote areas.

We expect RSPG work on providing a transparent and evidence-based evaluation of the use and demands to support the EU review of the band in 2025 and decide on the future usage of the band from 2030 and beyond. We refer to our reply to the RSPG consultation on the [“draft opinion on the future use of the frequency band 470-694 MHz beyond 2030 in the EU”](#) for further views for the evaluation of this band.

5 Strategic initiatives

ETNO welcomes the RSPG plan to work on strategic initiatives. It is important to provide timely inputs and react to ongoing EU spectrum policy matters.

We would appreciate stakeholders' involvement also in this work, and request that that draft opinions and outputs related to this work item are published for public consultation. In addition, other kind of stakeholders' involvement such as workshops would be welcome for supporting exchange of views between industry experts and policymakers.

6 Proposal for further work, 3.8-4.2 GHz

ETNO considers that it would be **useful for RSPG to assess the current and potential demand for private networks in Europe**. There have been developments in this area in the last few years to be considered in this analysis (use cases, technologies, spectrum availability approaches, e.g. set-asides and leasing). ETNO notes that BEREC has included work related to private/local networks in their draft work programme for 2024, and RSPG could complement this evaluation from spectrum and technology perspective. A more detailed analysis taking into account the spectrum perspective would be relevant especially in the context of expected EC decision on the band 3.8-4.2 GHz.

Regarding the 3.8-4.2 GHz band, the work on the technical harmonization of this band, as defined in the EC mandate, is ongoing in the CEPT. The RSPG has provided recommendations on the topic in 2021⁹, but did not provide actual justification on demands and benefits. As 5G networks have now been deployed more broadly, and stand-alone 5G networks evolve, it may be timely to consider the evolution of different demands (local and nationwide) and various possibilities to serve the local demands.

We propose that the analysis considers following aspects for the different approaches:

- Socio-economic benefits of different uses;
- Economic and ecologic impacts of different uses;
- Ensuring security and sovereignty with different uses;
- Competition and fairness of different mobile licenses, e.g. costs, obligation.

⁹ RSPG opinion on additional spectrum needs and guidance on the fast rollout of future wireless broadband networks.

ETNO (European Telecommunications Network Operators' Association) represents Europe's telecommunications network operators and is the principal policy group for European e-communications network operators. ETNO's primary purpose is to promote a positive policy environment allowing the EU telecommunications sector to deliver best quality services to consumers and businesses.

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