



**GSMA response to the to the Draft RSPG Work Programme for
2024 and beyond**

15 December 2023

About the GSMA

The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry, and society thrive. Representing mobile operators and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today's biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world's largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

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Introduction

The GSMA welcomes the opportunity to comment on the RSPG's draft work programme for 2024 and beyond. We hope that the following detailed comments can serve as a constructive contribution to the RSPG's deliberations on its draft.

The GSMA generally welcomes and supports the work items planned by the RSPG, in particular those with enabling potential for the delivery of the 2030 Digital Decade targets and advanced connectivity beyond 2030. However, we believe that several additions and amendments to the work programme are required to further foster a regulatory and policy environment that fully supports the achievement of the EU's ambitious connectivity goals.

As a general comment, the GSMA would welcome additional stakeholder engagement throughout the work programme, including through defined deliverables and timelines for workshops on the various work items. In addition, we consider that the organisation of stakeholder debriefings following each of the planned plenary meetings could provide a useful opportunity for the RSPG and stakeholders to engage and exchange views.

While the previous stakeholder workshops on awards and other spectrum related matters are welcomed, there is some concern that the current format only leads to debate among stakeholders themselves. In this regard, it would also be appreciated if the stakeholder workshops could be more interactive in nature e.g. through the inclusion of additional inputs from and exchange of views with RSPG members on the issue at hand.

In addition, efficient spectrum policy should support economic and climate goals. In this context, we consider that economic and sustainability impact analyses should be a core part of each Opinion published by the RSPG. We note that often the RSPG Opinions and Reports do not include any analysis on the socio-economic benefits of the included recommendations. Moreover, the work items related to climate and sustainability so far have been a separate activity rather than concretely linked to other work.

On the specific work items included in the draft work programme, the GSMA would like to provide the following detailed comments.

Peer review and Member States cooperation

The GSMA welcomes increased cooperation and sharing of experiences among RSPG members to facilitate peer learning and ultimately aid in ensuring that the conditions for spectrum assignment support network deployment. Spectrum policy has a key role to play in incentivising long-term heavy investment in mobile networks and thus the delivery of advanced mobile connectivity for all EU citizens. In particular, spectrum costs as well as

licence durations and renewals heavily impact investor appetite in the sector.

However, since the peer review work item was established, we have not seen clear evidence as to how this has contributed to the spread of “best practices” within the EU. While both the peer review process and exchanges based on the pre-existing workshop format have enabled increased information sharing and cooperation, it does not appear to have been sufficient to ensure that all awards are well designed or achieve optimal outcomes.

We also note that there have been some occasions where a specific award is discussed within the forum at quite an advanced stage, when considering the planned timeline of the award itself. This seems to indicate that there may be some lack of willingness or even possibility to consider possible changes to the award as proposed by the peers. In addition, we consider that the level of transparency in relation to the peer review process could be improved.

We therefore consider that some further refinement to the process is necessary. This is especially important in the context of achieving ubiquitous 5G coverage by 2030, as envisaged by the Digital Decade.

First, we consider that it would be useful for the RSPG to collectively identify “best practices” in relation to key aspects of spectrum licensing, including;

- Licence renewals: early review (at least 5 years before expiry), priority for prolongation/perpetual licences (justification needed for re-auction), examples e.g. Spain, UK, Estonia.
- Awards procedure: Reserve prices should be based on opportunity cost (EECC art. 42), maximising revenues should not be an objective of award processes (EECC art. 55), and market shaping measures should be justified with a market analysis (EECC art. 52).
- Licence costs: moderate reserve prices, minimise annual costs, avoid shortcomings (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 licence price.

Second, the annual RSPG peer review report could be improved by clearly establishing both the benefits and achievements of the process i.e. how the peer review mechanism has contributed to the spread of best practices and any plans for further work on establishing best practices in additional areas for the subsequent period.

Finally and with regard to transparency and the involvement of stakeholders, the GSMA considers that operators are key stakeholders in mobile spectrum awards, and additional transparency in relation to the peer review process, as well as the possibility to provide constructive proposals to specific auction plans in a timely manner before the auction, would be welcome. For example, we consider that the possibility for stakeholders to be provided

prior notice to a peer review forum taking place and to submit input on the specific award, including through the possibility to request a stakeholder award workshop in advance of the peer review forum, would be extremely useful.

Long-term vision for the upper 6 GHz band (2030 and beyond)

The GSMA welcomes this work item and in particular the recognition that a long-term perspective in relation to this band is required and that the primary goal is to maximise the contribution of this part of spectrum to the achievement of the digital connectivity targets for Europe, as laid down in the Digital Decade Policy Programme 2030.

The frequency range 6425-7125 MHz is of particular importance for mobile operators since it 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 society's demands in an economically and environmentally sustainable manner. Mobile operators are experiencing around 30% annual growth in traffic^{1,2} and European operators expect that 5G networks in cities will begin to experience service-impacting capacity limitations towards the end of the decade.

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 While the mid-band spectrum need for IMT is estimated to be in total about 2 GHz within 5-10 years⁴, the current mid-band spectrum availability in European countries is less than 1 GHz. The upper 6 GHz is a key mid-band spectrum resource to address the growing needs of mobile connectivity, and it is the last realistic mid-band opportunity for IMT in many countries.

A GSMAi report⁵ on the socio-economic benefits of the 6 GHz band concludes that on a global basis the greatest socio-economic benefit from the entire 6 GHz band (5925-7125 MHz) will be driven by using it fully for licensed IMT. Even in countries with very high Wi-Fi demand, where fibre to the premises (FTTP) adoption is widespread and supports above 10 Gbps user speeds, assigning the upper 6 GHz band (6425-7125 MHz) for licensed use is the most beneficial scenario.

Various trials around the globe have also demonstrated that the quality of mobile services both indoors and outdoors can be improved with the allocation of new spectrum at 6 GHz. The former is especially important since around 75% of all IMT mobile traffic originates from

¹ [Ericsson Mobility Report](#), Ericsson, June 2023

² [The Evolution of Data Growth: Evaluating the trends fuelling data consumption in European markets in Europe](#), Arthur D. Little, May 2023

³ [The socio-economic benefits of mid-band 5G services](#), GSMA, February 2022

⁴ [Vision 2030: Insights for Mid-band Spectrum Needs](#), GSMA, July 2021

⁵ [The socioeconomic benefits of the 6 GHz band - Considering licensed and unlicensed options](#), GSMAi, June 2022

users in indoor environments. Trials have also demonstrated that advanced 5G technologies can achieve coverage levels in the upper 6 GHz band that are comparable to what is achievable today in the 3.5 GHz band, and while using the existing macro-cellular base station grids. Furthermore, licensing the band would result in significant savings in carbon emissions. Studies have shown that with the upper 6 GHz it is possible to reduce the carbon emissions by at least 2.9 times compared to the alternative of extreme IMT network densification.⁶

With regard to the potential for sharing this band, the GSMA recognises the need to use spectrum efficiently, including in particular the valuable mid-band spectrum in the upper 6 GHz band. We believe, however, that there are a number of very significant and difficult challenges associated with sharing of the upper 6 GHz band between licensed mobile and Wi-Fi and that would result in a degradation of performance in both systems and an inefficient use of the spectrum.

One fundamental problem is that technologies for licensed mobile and Wi-Fi use very different and incompatible protocols to access spectrum, each designed to optimally deliver their distinct performance requirements. Although use of the upper 6 GHz band for Wi-Fi indoors and licensed mobile outdoors might sound attractive in theory, we believe it would be very difficult for this to work effectively in practice. For example, there will be many locations with low isolation between indoor and outdoor areas, and we believe that avoiding interference between mobile and Wi-Fi will be extremely difficult, even with advanced coexistence mechanisms. In addition, reducing the power levels used for 5G in the 6 GHz band will hinder mid-band's ability to provide good coverage and result in inefficient use of the band and kill the mobile business case.

We believe that use of the lower 6 GHz band for Wi-Fi/RLANs and the upper 6 GHz band for macro-cellular mobile networks represents the best overall usage of the 6 GHz frequency range in Europe. The lower part of the 6 GHz band (around 500 MHz) has recently been allocated for use by unlicensed WAS/RLANs in Europe, almost doubling the spectrum available for this purpose. Moreover, if additional capacity is needed for wireless access to broadband over the longer term, it can be provided with mmWave and planning within premises. Against this background, careful consideration and a holistic view are necessary with regard to the upper 6 GHz band, especially considering that once a spectrum band has been made available for unlicensed use it will be almost impossible to reverse that decision.

Finally, the GSMA considers that the timeline for this work item could also envisage the organisation of a stakeholder workshop on this issue, in advance of the draft Opinion in February 2025.

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

6G strategic vision

If Europe has the ambition to be at the forefront in 6G research and, in due time, on deployment, it is important to recognise and consider spectrum demands for 6G in a timely manner. The GSMA therefore welcomes the RSPG's anticipated work in this regard, in particular the provision of strategic guidance on the spectrum component of 6G taking into due consideration further development of 5G prior to 2030.

6G is expected to become the primary mobile technology in the 2030s and will offer an enhanced user experience compared to previous generations. Mainly, it will enable the UN Sustainable Development Goals (SDGs) through global coverage, sustainability and security; all features that will lead to an era of universal, meaningful connectivity. 6G promises ultra-fast data rates with lower latency, significant energy efficiency, and greater reliability. While 6G applications are yet to be defined, this new generation aims to deliver global connectivity, sensing connectivity, immersive communications, and critical services, among several other potential use cases throughout a hybrid and diverse technology approach.

We anticipate that there will already be a need for new spectrum in the EU in advance of 6G as additional spectrum is needed for both 5G and 6G. At the EU level, the GSMA considers that a clear roadmap on future spectrum availability, which also covers spectrum bands that may be used in a technology neutral manner, is needed. Such a roadmap should include the 3.8-4.2 GHz, upper 6 GHz and 470-694 MHz bands. It should also consider demands, possibilities and approaches for higher bands i.e. above 6 GHz (7-15 GHz), mmWave and potentially even Terahertz bands. In terms of timing, we consider that the publication of at least a draft roadmap for 5G and 6G evolution during the course of 2025 would be optimal.

The GSMA further considers that the harmonisation of frequency bands should concentrate on the timing of availability and the technical usage conditions. The assignment dates should be decided at the Member State level according to the market demand but it should be ensured that each Member State efficiently awards the key harmonised spectrum bands for nationwide mobile networks. In addition, spectrum should always be awarded on a technology neutral basis as mobile demand depends on the services provided and not directly on a specific technology. Furthermore, licensing for 6G and the associated spectrum costs should be fair and equal for all possible different users (e.g. MNOs, satellite, verticals, governmental, TV operators). This ensures efficient use of spectrum resources, and fair competition, especially when different players and solutions serve the same needs.

In relation to vertical requirements, it is important to note that making further spectrum available for industry users has to be balanced against demand from other users, including mobile operators who have increased spectrum needs as mobile data traffic grows. There are also other approaches to service vertical needs. In this regard, we note that there are different categories of vertical users and demands and such demands can be served efficiently within

mobile networks. In fact, a recent report by GSMA⁷ found that market-driven approaches that foster cooperative solutions can bring the best outcome for spectrum users and consumers alike.

On the issue of satellite, while Direct-to-Device (D2D) and non-terrestrial 3GPP may provide benefits to complement terrestrial coverage, it is important to note that the terrestrial coverage in Europe is already relatively widespread. It should also be noted that satellite licences need to be limited to spectrum that is specifically allocated to the Satellite services (FSS or MSS) and that the protection of terrestrial services needs to be ensured.

More generally, the GSMA considers that the timeline for this work item should include a more concrete deliverable and associated timing in relation to the organisation of a stakeholder workshop on this issue.

Assessment of future usage of the frequency band 470-694 MHz within the EU

Sufficient low-band spectrum availability is necessary for delivering the growing demand for mobile broadband services in rural areas and for enhancing mobile broadband indoor coverage. Low band spectrum will be a key enabler for digital equality, reducing the gap between urban and rural areas and delivering affordable connectivity. We therefore welcome the RSPG's proposal for a further deliverable regarding this band, including a more detailed assessment of how different scenarios can coexist in the EU.

In this context, an evaluation of the current and potential situation in different countries before and after 2030 would be useful. This should include:

- A map of Europe based on DTT consumption patterns and indicating where a logical boundary could be between mobile versus broadcast countries.
- A more detailed summary regarding developments in how the band is currently used for terrestrial provision of broadcasting services, including in countries with high DTT penetration.
- An analysis on how the use of other means and technologies to receive and view video content has developed.
- An analysis of whether national media policies and legislation are neutral towards different distribution means, and if not, whether the technology specific obligations/priorities are still justified.

In addition, it would be helpful if the RSPG could provide additional clarity as to how this work item may feed into the Commission's report to the Parliament and the Council on the

⁷ [The Impact of Spectrum Set-Asides on 5G](#), GSMA, June 2023

developments in the use of the sub-700 MHz band. We note that the Commission report, which is required under Article 7 of the UHF Decision, is expected in 2025 in line with the Lamy report, while the final RSPG report is also expected in October 2025.

The GSMA also considers that the timeline for this work item should include a more concrete deliverable and associated timing in relation to the organisation of a stakeholder workshop on this issue.

Strategic Spectrum Matters

The GSMA welcomes this work item and the recognition of the role that spectrum policy has to play in supporting the Digital Decade as well as other relevant EU policies and initiatives.

As a general comment, it would be useful if the eventual opinions and/or other deliverables related to this work could be made subject to public consultation given the importance of this issue for all stakeholders involved.

Proposals for additional work items

Private networks and use of the 3.8-4.2 GHz band in Europe

The GSMA considers that it would be useful for the RSPG to conduct an assessment of current and potential demand for private networks in Europe. We consider that there have been sufficient developments in the last few years to warrant further study into this topic, especially in the context of the upcoming EC Decision on the 3.8-4.2 GHz band.

The GSMA is of the view that such an assessment should include an in-depth analysis of use cases in countries that have opened up spectrum for local use, as well as the various possibilities for serving the demand for private networks and the variety of users that exist. In this regard, it is important to note that local demands are and can be served with various other solutions e.g. existing national allocations, nationwide spectrum (including leading) and within operators' networks. All of these possibilities and associated case studies should therefore be assessed within the scope of such a work item. In addition, the following should also be considered:

- Socio-economic benefits of different uses
- Sustainability impacts of different uses
- Security and sovereignty implications of different uses
- Competition and fairness of different mobile licenses e.g. costs, obligations etc.

We also note that according to its draft work programme, BEREC is planning a report on the evolution of private and public 5G networks in Europe. The report will focus on the drivers

for, and requirements of, private networks as well as on the evolution of public networks aimed at meeting new user demands in order to provide a factual overview on the extent of the use of private and public 5G networks in Europe. While this work item is currently planned for final delivery in Q1 2025 and as such may be too late to inform the Decision on 3.8-4.2 GHz, we believe that a RSPG work item on the spectrum, technology and cost-benefit aspects would serve to complement this work as well as informing next steps in relation to the 3.8-4.2 GHz band in particular.