Response to the RSPG Consultation on the Draft RSPG Opinion on 6 GHz | August 2025

The GSMA, Connect Europe and their members thank the RSPG for the opportunity to contribute to this important consultation on the draft RSPG opinion on the upper 6 GHz band. The below response includes policy recommendations, along with a more detailed background on the evolving role of this range for mobile connectivity, focusing on the need for the upper 6 GHz for full-power macrocell IMT.

1. Introduction

The upper 6 GHz band represents the last substantial contiguous block of mid-band spectrum in Europe that can support high-power and wide-area mobile services. Decisions about its future use will have profound and enduring implications on Europe's ability to strengthen its position as a global leader in digital technology and innovation. Part of this is the band's key role in delivering future innovative high performance networks and services following the path defined by the European Union's Digital Decade targets.

Mid-band spectrum is essential to provide city-wide capacity, and to enable next-generation networks to deliver reliable, high-quality connectivity indoors and outdoors. The upper 6 GHz band is therefore an important opportunity to secure the resources necessary to meet these ambitions and prepare Europe for successful 6G deployment.

A significant number of GSMA and Connect Europe members are converged connectivity providers that offer both mobile and fixed broadband, and we believe mobile services and Wi-Fi are complementary, not competitive, technologies. The right amount of spectrum should be made available for both technologies to thrive. For this reason, the GSMA and Connect Europe strongly support dedicating the entire 6425-7125 MHz frequency range to MFCN, while the entire 5945-6425 MHz portion remains available for WAS/RLAN development. This solution provides Europe with the necessary spectrum resources to develop strong mobile networks and lead globally in 6G deployment while maintaining digital sovereignty and driving Europe's technological and economic leadership for decades to come.

2. MFCN Data Growth and New Use Cases Towards 6G Leadership (Chapters 4.1, 4.2 and 5.6)

By the end of the decade, the GSMA expects three times more traffic in European cellular networks than today[1], while Arthur D. Little's[2] report estimates a compound annual growth rate (CAGR) of 25% on average for mobile uses, resulting in a growth factor of 4.75 on average for the EU until 2030. The latest Ericsson's Mobility Report[3] estimates that data traffic per active smartphone in Western Europe will grow, on average, at a CAGR of 13%, rising from 22 GB in 2024 to 47 GB in 2030 per month, excluding traffic generated by Fixed Wireless Access (FWA), expected to contribute to 35% of the cellular network traffic in 2030.

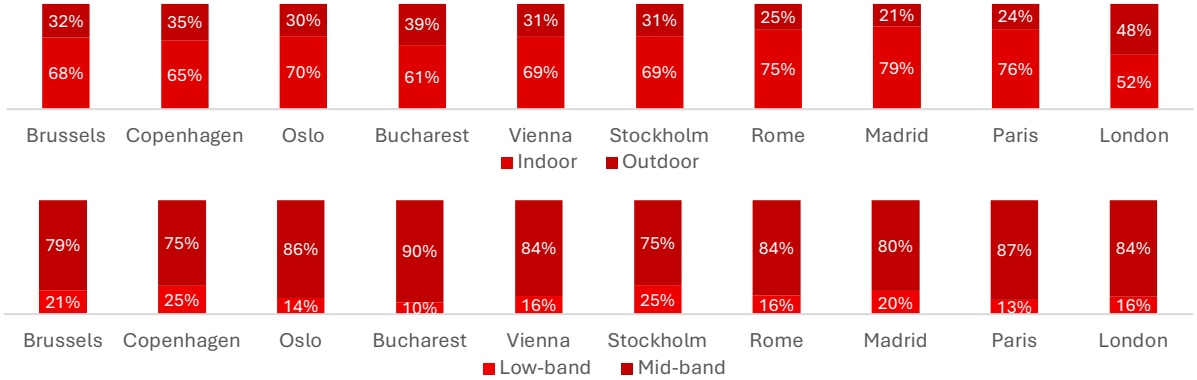
6G and its new use cases are expected to increase the annual traffic growth rate and service requirements of MFCN beyond 2030. This is driven by increasingly data-intensive applications such as ultra-high-definition streaming, immersive augmented and virtual reality experiences, autonomous vehicle communications, and widespread IoT deployments across industrial and public sectors. All these applications, additionally, will be enhanced by artificial intelligence capabilities.

[1] Mobile Economy Europe, GSMA, 2025: https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-economy/europe/
[2] Arthur D. Little's Telecom, 2024: https://www.adlittle.com/en/insights/report/evolution-data-growth-europe
[3] Ericsson's Mobility Report, 2025: https://www.ericsson.com/49e9b6/assets/local/reports-papers/mobility-report/documents/2025/ericsson-mobility-report-june-2025.pdf

Each new mobile generation has required significantly wider channel sizes to meet user demand. While 5G networks currently utilise up to 100 MHz channels in mid-bands, future 6G networks will require channels of 200 MHz per operator (and later 400 MHz) to start delivering on the promise of ultra-low latency, high capacity, and enhanced reliability for advanced applications.

To achieve these larger channel sizes, Europe requires the full 700 MHz available in the upper 6 GHz band. Partial availability or band splits would limit spectrum availability, prevent operators from deploying wide contiguous channels, and significantly impair Europe's ability to deliver competitive 6G services. As a consequence, it would deter investment, as artificial scarcity weakens economic sustainability to rollout efficient 6G networks. Europe must act decisively to harmonise this band and secure its position in the emerging 6G ecosystem.

The upper 6 GHz band is expected to be deployed on the same network grids as the 3.5 GHz band. Its suitability for wide-area networks has been shown in several tests performed globally, which have also included validation of its indoor performance in 5G networks. As shown below, data from Ookla[4] demonstrates that most cellular mobile usage is indoors and delivered by mid-bands.



Operators are already refarming existing frequencies and densifying the network in urban and suburban areas to the extent that is operationally and financially viable. Availability of the full upper 6 GHz band is therefore the only realistic option to prevent congestion impacting QoS in densely populated areas.

Macrocell deployments in the 6 GHz band allow operators to deliver wide-area coverage serving both outdoors and indoors with fewer base stations, which optimises infrastructure costs and reduces environmental impact. Assigning this spectrum for licensed IMT is a strategic choice to enable environmentally sustainable network evolution and support Europe's Green Deal and climate neutrality goals by reducing carbon emissions from networks.

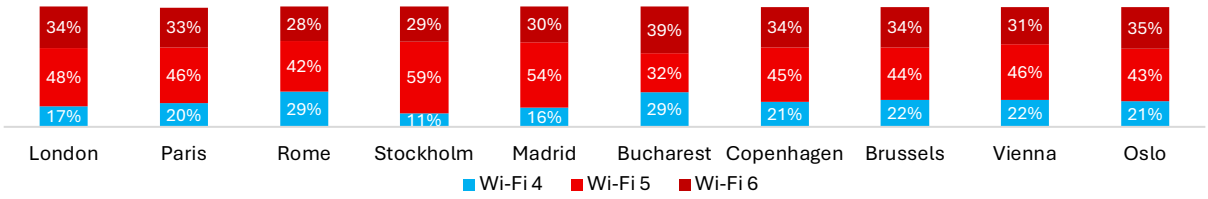
Making the entire upper 6 GHz band available to licensed IMT also offers transformative economic and social benefits for Europe. GSMA Intelligence report[5] estimates that the economic return from fully licensed IMT use is seven times greater than from unlicensed alternatives in 6 GHz. This benefit stems from IMT's ability to deliver high-capacity managed mobile services that support a wide range of applications and sectors, driving innovation and productivity gains across the economy.

[4] GSMA Intelligence analysis of data provided by Ookla, July 2025

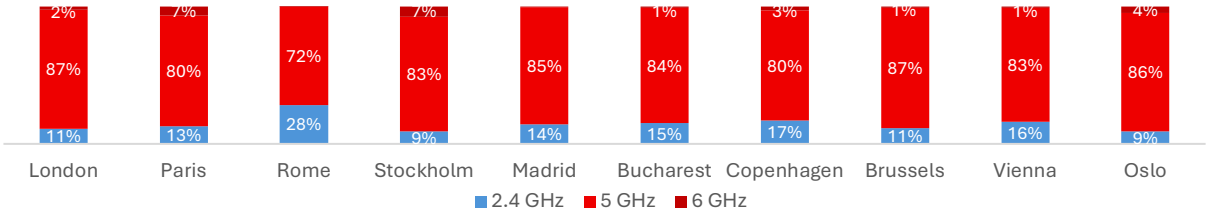
[5] Mobile Evolution in 6 GHz (Europe), 2025: https://www.gsma.com/connectivity-for-good/spectrum/wp-content/uploads/2025/07/6-GHz-in-Europe.pdf

3. RLAN Current and Future Expectations (Chapter 4.5)

Wi-Fi has long played a critical role in Europe's digital ecosystem by providing connectivity in homes, enterprises, and public spaces. However, today, Europe relies on older Wi-Fi technologies, especially as around a quarter of scans from Ookla indicate that Wi-Fi 4 is still being used, as seen below. Wi-Fi 6, that allows for greater efficiency and speeds, is around a third of the scans. Upgrading to Wi-Fi 6, while optimising indoor deployments (e.g., with additional access points, mesh network solutions and using Wi-Fi boosters) can also improve quality, without the need for more spectrum.



The spectrum available for Wi-Fi already spans in the 2.4 GHz, 5 GHz, and the lower 6 GHz (5945–6425 MHz) bands. Despite this substantial availability, recent data shows that adoption and utilisation of the lower 6 GHz band for Wi-Fi remain minimal, with only 0-7% of Wi-Fi 6/6E scans in major European cities operating in this spectrum, as seen below on new data from Ookla in partnership with the GSMA Intelligence[6]. This leaves the lower 6 GHz range free for the evolution of Wi-Fi.



As Wi-Fi already has expansion capacity in the lower 6 GHz band, the priority should be to improve efficiency and adoption of newer technologies in existing bands. Measures such as encouraging upgrades to Wi-Fi 6/7 and improving Wi-Fi network planning would be more effective in addressing Wi-Fi performance challenges. Therefore, the strategic decision to avail the entire upper 6 GHz band to IMT would ensure a balanced approach where Wi-Fi continues to evolve in the lower 6 GHz range, while enabling Europe to meet future mobile broadband and 6G demands.

4. Incumbent Services and Coexistence Possibilities (Chapters 4.9 and 5.5)

The mobile industry has considerable experience in successfully managing coexistence and implementing phased migration strategies in other frequency bands. FS links are typically used in sparsely populated areas, while 6 GHz mobile use is expected to be initially concentrated in urban areas.

According to national policies, it could be feasible to coordinate upper 6 GHz mobile deployments around the links, gradually replace the links with fibre connections, and/or reallocate the links to higher frequency bands. Such a phased approach, combined with geographic coordination, can ensure minimal disruption to existing FS operations. It is also important to note that the coexistence situation with FS is similar in all the scenarios identified in the RSPG opinion, as the used FS channel plan is FDD. Reducing the spectrum amount available for

[6] GSMA Intelligence analysis of data provided by Ookla, July 2025 and Mobile Evolution in 6 GHz (Europe), 2025: https://www.gsma.com/connectivity-for-good/spectrum/wp-content/uploads/2025/07/6-GHz-in-Europe.pdf

mobile (e.g. splitting the band at 6505 MHz, 6585 MHz, or 6745 MHz, instead of 6425 MHz) will not offer significant benefits for the coexistence with FS links.

Coexistence with FSS earth stations can be safeguarded by (where necessary) applying guard bands, deploying advanced filtering technologies, and ensuring sufficient geographic separation for critical satellite earth stations. Similarly, RAS, which depends on extremely low interference levels to observe cosmic phenomena, can be protected through coordination zones, strict emission controls, and continuous spectrum monitoring.

Studies conducted by CEPT have examined the sharing potential between FS and WAS/RLAN systems. However, uncertainties remain about interference from pulse or burst transmissions. Experience in the 5 GHz band shows that unlicensed Wi-Fi has caused interference to meteorological radars even with mandated detection mechanisms. These findings highlight the importance of ensuring that any use of the band, particularly under licence-exempt conditions, is managed reliably to protect incumbent services.

Additionally, non-prioritised usage scenarios, such as RLAN deployments in IMT spectrum where there is no MFCN coverage (as proposed by RSPG) need to be carefully studied to avoid any risk of interference to the primary users. We consider the coexistence between licensed MFCN and license-exempt WAS/RLAN is challenging both technically and commercially. CEPT should address these issues to ensure that incumbent services have a way forward while unlocking the socio-economic benefits of transitioning the upper 6 GHz band to licensed IMT, thereby delivering the capacity needed for Europe's 6G leadership.

5. Conclusions Addressing the RSPG Band Split Options (Chapter 5.3)

The RSPG draft opinion outlines multiple split-band scenarios, potentially offering additional WAS/RLAN spectrum (80 MHz, 160 MHz, or 320 MHz) in the upper 6 GHz, in addition to the current 480 MHz in the lower part of the 6 GHz band. While these proposals aim to accommodate different usage needs, the GSMA, Connect Europe, and their members consider that such approaches would critically undermine Europe's ability to deliver the wide, contiguous spectrum blocks required to enable high-performance 6G networks.

Reduced spectrum availability curtails mobile networks' efficiency, limits innovation, and leads to a lower quality user experience. At the same time, existing WAS/RLAN bands in Europe remain underutilised, particularly in the lower 6 GHz. Given the existing availability and the potential for improved efficiency, dedicating further spectrum to WAS/RLAN in the upper 6 GHz band would not be justified.

In conclusion, the GSMA, Connect Europe, and their members strongly support that:

- Licensed 6 GHz capacity is required to carry the increasing data demand, user and service requirements per connection, and support Europe's 6G leadership.
- Spectrum capacity needs for 6G deployments should consider channel sizes of 200-400 MHz.
- Availability of licensed upper 6 GHz mobile spectrum, at reasonable conditions and price, will drive cost-efficient network deployment, help lower the broadband usage gap and support digital inclusion.
- There is scope to improve the efficiency of unlicensed Wi-Fi spectrum use, with upgrades from Wi-Fi 4 and Wi-Fi 5 to the latest technologies.
- The lower 6 GHz band is an almost entirely unused space in which Wi-Fi can evolve.
- The full upper 6 GHz (6425-7125 MHz) should be made available to full-power macrocell IMT, without any additional power restrictions or sharing mechanisms.