Deutsche Telekom response to RSPG Consultation on the Draft Opinion on ITU-R World Radiocommunication Conference 2023

12 August 2022

Intoduction

Deutsche Telekom (hereafter "Telekom") welcomes the opportunity to provide comments to the Draft RSPG Opinion on ITU-R Worldradiocommuncation Conference 2023 (WRC-23). The decisions of WRC-23 will have a key role for the further development of mobile broadband services as one important element for the achievement of Europe's digitization targets. The availability of harmonized spectrum resources in low, mid and high bands in a timely manner is an important driver for the provision of high quality mobile broadband services to satisfy the ever-increasing data demand for mobile applications. European mobile operators and amongst them Telekom are ready to deliver towards the ambitious EU Digital Decade targets 2030 but this needs to be based on a sustainable market situation enabling investments in increased coverage and capacity on an economically viable basis. This is a major precondition to increase Europe's position in the internationally environment and to close the gap between Europe and competing regions such as North America or Asia.

Telekom requests European politicians and regulators to support a sustainable development of the European mobile markets by ensuring that the WRC-23 decisions allow mobile operators to substantially contribute to the achievement of the EU targets and finally to satisfy the customer demands.

Telekom concentrates its further comments on agenda items 1.2, 1.3, 1.5 and 10 being the main area of interest. Furthermore, Telekom supports the comments from GSMA and ETNO.

Agenda item 1.2 (IMT identification)

This agenda item deals with a number of bands of which the range 6.425–7.125 MHz is the most important one for future mobile broadband services, not only in Europe. The Draft RSPG opinion does not provide a clear position on this band. It describes two possible options for a WRC-23 outcome without showing any preference for one or the other option.

Taking into account the importance of a mid-band spectrum resource being sufficient to satisfy the demand, in particular for 5G services, Telekom is of the view that a clear European position is needed for the negotiations at WRC-23.

Telekom supports RSPG Option 1 on an IMT identification of 6.425–7.125 MHz in Region 1 and proposes to delete Option 2. Appropriate conditions connected to the IMT identification should be least restrictive and developed based on the outcome of the sharing studies.

Recent studies from GSMA1 and GSMAi2 show clearly the demand for future spectrum resources in the mid-band frequency range for 5G and its socio-economic benefit, to support meeting the customers' demand and to achieve the European Digital Decade 2030 targets. The GSMAi study clearly shows that the licensed usage of this spectrum range will deliver the highest socio-economic benefits to the European society, taking into account the already taken decision on the harmonization of the lower 6 GHz range (5.945–6.425 MHz) for unlicensed use (i.e. wireless LAN).

The band 6.425–7.125 MHz represents the only realistic opportunity for making available a reasonable mid-band spectrum resource allowing sufficient wide contiguous bandwidth per operator

[1] https://www.gsma.com/spectrum/resources/5g-mid-band-spectrum-needs-vision-2030/
[2] https://www.gsma.com/spectrum/resources/mid-band-5g-spectrum-benefits/

to allow fully benefiting from the 5G performance as defined by 3GPP. This band will be required in urban and sub-urban areas to enable the provision of more advanced 5G services.

The RSPG states that a future European policy strategy on 6.425–7.125 MHz should be based on the best spectrum use for Europe. This is supported by Telekom, however, it can only be achieved by allowing for the licensed use of the band as the most beneficial scenarios for the European digital society. The spectrum resources for unlicensed use have already nearly been doubled in 2021 by harmonizing the lower part of the 6 GHz range (5.945–6.425 MHz) for WAS/RLAN. Telekom is of the view that the spectrum demand for those applications can be satisfied by the already harmonized resources as also shown in the GSMAi study.

Telekom would like to emphasize that the use cases for licence-exempt and licensed spectrum differ. Whereas WAS/RLAN systems will mostly provide services supplementing fixed broadband services by providing wireless connections to mobile devices the licensed IMT systems are able to provide real mobile broadband outdoor services without being locked to a certain area.

More detailed information about the 6 GHz band can be found in the Multi-Company response to the Radio Spectrum Policy Group public consultation on the Draft "Opinion on the ITU-R World Radiocommunication Conference 2023" – Focusing on the IMT identification of 6425–47125 MHz under Agenda Item 1.2 which is fully supported by Telekom.

Agenda item 1.3 (Mobile Allocation of 3.600–3.800 MHz)

The band 3.600–3.800 MHz as part of the European 5G pioneer bands is of great importance for the 5G take-up in Europe. EC and CEPT decided to harmonize the band for the provision of mobile services based on IMT. An upgrade of the mobile allocation to primary would allow all European countries to deploy high quality 5G services under reasonable conditions by easing the cross-border coordination with those countries outside CEPT. However, it has to be ensured that a WRC-23 decision will not negatively impact the CEPT-harmonized usage conditions of that band.

Telekom welcomes the RSPG position and supports the primary allocation of the band 3.600–3.800 MHz as along as the current harmonized conditions for the use by IMT would not be limited.

Agenda item 1.5 (UHF band)

The current proposed RSPG recommendation on this agenda item does not provide any position being taken by EU Member States at WRC-23. Except the deletion of the Broadcast allocation for Region 1 there would be no other WRC decision not being compliant with Decision EU 2017/899.

Just to note: This agenda item deals with a review of the use and spectrum needs in 470–960 MHz in Region 1 and possible regulatory actions in 470–694 MHz because of this review and for ensuring the most efficient usage of these valuable frequencies. This agenda item results from an already long-lasting discussion on this frequency range initiated at WRC-15. Meanwhile Europe has taken the decision to prioritize the range 470–694 MHz for Digital Terrestrial Broadcasting until 2030 together with the recommendation to discuss on the most efficient use of the band after 2030. A respective review is foreseen for 2025. This review should consider efficient spectrum usage, changes in customer behavior and foster growth an innovation.

Additional low-band spectrum for the mobile service supports satisfying the demand for higher broadband speed and capacity in sparsely populated areas in an economical sustainable way. It

enables the provision of more equal mobile service in those areas compared to sub-urban and urban areas and thus, supporting targets for digital inclusion and equal digital opportunities, including healthcare, education but also media. A network densification instead of additional spectrum (as requested by some parties) has technical and practical limitations. The current IMT networks are operated as single frequency networks, so the closer the cells are, the more interference cancelation measures need to be implemented which cause reductions of capacity otherwise being available for the customers. Furthermore, an intensive network densification would require antennas to be more down-tilted, thus leading to very complex construction work and increases of the EMF safety distances which can't be realized at the majority of sites. In addition, network densification requires a lot of additional sites and infrastructure leading to an increase in power consumption. Therefore, the only sustainable way to enable customers in sparsely populated to use high quality mobile broadband service is the availability of additional low-band spectrum.

When developing a recommendation on agenda item 1.5 the changes in the customer market behavior should be clearly considered. In many European countries Digital Terrestrial TV (DTT) is no longer the most popular broadcasting platforms. In some countries, the DTT market share is clearly below 10% while the popularity of other platforms (e.g., cable, IPTV, satellite) is increasing. Beside this, there is ongoing change in media consumption. The usage of on-demand video content is steadily growing, and customers increasingly use more streaming services with mobile equipment and but also with "TV screen" instead of traditional linear TV. According to the EU broadband targets for 2030 the customers will have a high-quality broadband access being able to also access linear video content in a flexible demand driven manner. This reduces the need for DTT services but increases data in broadband, including mobile broadband.

Taking into account the different development in DTT and mobile broadband Telekom is of the view, that a timely decision of WRC-23 in favor of a co-primary Mobile Allocation of 470–694 MHz is the most beneficial way to create regulatory clarity and to provide the required flexibility for the consequential European decision on an efficient future use of this frequency range. It clearly does not define the outcome of this decision-making process. A co-primary allocation of 470–694 MHz would support technology and regulatory developments that could realize the flexibility defined in (EU) 2017/899, as well as taking into account the different situation in European Member States in terms of demands and timelines for broadcasting.

Postponing the decision to a later WRC increases the uncertainty for all stakeholders and ignore that technology and regulatory developments towards the usage of the band 470–694 MHz need sufficient lead time.

Telekom invites RSPG to recommend a timely decision in favor of a co-primary allocation of the band 470–694 MHz to the Mobile Service at WRC-23 as the most beneficial way to create regulatory clarity and to provide the required flexibility for the consequential European decision on an efficient future use of this frequency range. A postponement of this decision to a later WRC should be rejected.

Agenda item 10 (Agenda WRC-27)

IMT technologies and services to meet the society's demands and to foster innovation and efficiency continuously develop over time. Every new generation of IMT technology provides additional and more efficient solutions and enables new use cases. Considering this innovation happening roughly every 10 years the next generation 6G is expected in around 2030.

The capacity demand for these mobile broadband services has been continuously growing since their introduction. It could be assumed that this will continue as the demand for broadband connectivity is steadily growing. Mobile operators update their networks and migrate to new technologies in existing bands, but this will not entirely meet the expected increase for capacity. The development of the next IMT generation is under way and so far, there is no final view which dedicated frequency ranges might be of interest. For sure, the demand increase will need further spectrum resources to deliver to the political mobile broadband targets and the customer demand.

Telekom supports the consideration of additional IMT spectrum at WRC-27.