



INFRASTRUCTURE ASSOCIATION

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Source: 5G IA

5G IA Response to the Public consultation on the Draft RSPG Opinion on 5G implementation challenges (RSPG 3rd opinion on 5G)

5G IA welcomes the continuous work of RSPG on providing the spectrum resources to the European market needed to make 5G a success and thank for the opportunity to be able to comment on the Draft RSPG Opinion on 5G implementation challenges (RSPG 3rd opinion on 5G).

I. Concerning the Defragmentation of the 3.4-3.8 GHz frequency band:

5G IA confirms the need for wide contiguous spectrum bandwidths of ideally 80 to 100 MHz in the 3.4-3.8 GHz frequency band to facilitate in particular high throughput multi-Gb/s 5G services such as enhanced mobile broadband experience. Beyond the linear impact on data throughput, wider bandwidth allows for a larger pool of frequency resources resulting in better statistical multiplexing and higher optimization potential for scheduling yielding gains in spectrum efficiency. Combining non-contiguous chunks of spectrum by means of carrier aggregation into wide RF bandwidth requires extra complexity in implementation and e.g. in signalling leading to less efficient solutions compared to contiguous spectrum of the same size.

Spectrum award processes should consider effective and efficient mechanisms to ensure the widest contiguous blocks of spectrum be made available.

According to CEPT band usage review, the 3.4 – 3.8 GHz usage is largely fragmented in a number of countries. If maintained, such band usage fragmentation would prevent the full exploitation of the above-mentioned benefits. 5G IA welcomes any efforts towards allowing wider contiguous spectrum, including the ones described in ECC Report 287.

II. In order to ensure connectivity for vertical industries:

5G IA confirms the importance for 5G for vertical applications and industries.

Connectivity for vertical industries will be implemented based on IMT technologies and in both identified/assigned IMT frequency bands and unlicensed bands.

The main technological step change of 5G networks is their capability to serve the very different needs of final users and verticals through technical solutions such as network slicing, Software Define Network (SDN) and Network Function Virtualization (NFV).

5G IA recognises that multiple models could be designed on how connectivity for vertical industries could be implemented. Regulation therefore should support flexibility to allow for cooperative models e.g. between mobile network operators and local private enterprises in order to maximise efficient use of spectrum and network infrastructure.

Network slices of a Mobile Network Operator (MNO) network and other cooperation models could be envisaged, e.g. where services of the MNO(s) and services of a local enterprise can be served over a shared local radio network access (RAN) infrastructure. 5G network slicing technology would allow for the complete separation of the public from the private network traffic.

5G vertical applications requiring wide area coverage and/or mobility fall more naturally into the domain of MNOs who will be able to provide tailored services in network slices on their networks.

5G IA recommends to carefully assess the potential impact on economic and spectrum efficiency of dedicating spectrum to specific uses or users, including verticals. Specifically, for the reasons explained above, spectrum fragmentation can and should be avoided, thanks for instance to network slicing.

