Ofcom Consultation – Enabling Spectrum Sharing in the Upper 6 GHz Band

Cellnex UK Response

April 2022

Overview of Cellnex UK

Cellnex Group

This response is submitted by Cellnex UK (link), which is part of Cellnex Group (link) which:

- Supports over 420 million mobile connections across Europe
- Operates >70,000 mobile sites today, which will grow to >130,000 by 2030
- Is Europe's leading neutral host mobile infrastructure provider, covering 12 countries: Austria, Denmark, France, Ireland, Italy, Netherlands, Poland, Portugal, Spain, Sweden, Switzerland and the UK
- Provides mobile infrastructure services, private and mission-critical networks, distributed antenna systems & small cells and smart/IoT & innovative services
- Had an annual turnover of €2.5bn in 2021
- Is a member of the FTSE4Good, Standard Ethics, United Nations Global Compact

Where possible, we have sought to provide international examples from the wider Cellnex Group in our response.

Cellnex UK

We are the trusted partner of all the major UK mobile network operators, hundreds of private businesses, the emergency services, as well as the UK Government, specifically Cellnex UK:

- Is the UK's leading independent wireless connectivity infrastructure company
- Operates >7,000 mobile sites today, which will grow to >13,000 by 2031
- Has deployed over 1,000 small cells to date
- Is a provider of private networks in campus and indoor environments
- Is an indoor mobile coverage provider, most notably in the Etihad stadium in Manchester
- Is deploying contiguous mobile coverage and capacity along the 81km Brighton to London Mainline and three major stations
- Has won three DCMS 5G competitions, working collaboratively with universities and start-ups to deliver 5G innovation
- Employs 300 people across four major UK locations – Reading, Manchester, Scotland and Leamington Spa
- Has invested £6.1bn in the UK since 2016

Basis of Response

Cellnex UK is primarily a neutral host infrastructure and service business that serves the UK mobile network operators ('MNOs'), other communications providers, and more recently wider businesses/enterprises. Consequently, we have focused our response to this consultation within our domains of business to business expertise – namely passive macro infrastructure, neutral host active RAN, indoor coverage, outdoor small cells, private networks and communications needs of the transportation sector.

Where we have felt qualified or compelled to make a comment on areas outside this focus (e.g. end consumer considerations), we have typically provided bullets point and/or directional answers.

Question 1: Do you agree with our proposals to add the 6425-7070 MHz band to the Shared Access framework?

and

Question 2: Do you have any comments on potential uses for this licence?

If the upper 6 GHz was released as per the consultation (i.e. low power, indoor only) we do not see a role for this spectrum in deployment of enterprise grade private networks across scale indoor locations (e.g. factories) or local area outdoor locations (e.g. manufacturing campuses, ports). The low power in particular is likely to make deployment in these type of environments economically challenging due to the quantum of 'base stations' that would be required.

We also note that the use cases associated with low power, indoor only activity in this area are unclear and are arguably supported already by the lower 6 GHz band licence exempt regime, hence its uncertain what allocation of the upper 6 GHz band would achieve or enable at the present time.

If the spectrum were to be made available on a medium or higher power, secured (i.e. long term licence) and outdoor basis then we could envisage it being used to support a wide range of high capacity, low latency applications in a private network setting subject to associated equipment development and international alignment, however we also note:

- The 3.8 GHz to 4.2 GHz band remains the primary focus for private network deployment across Europe
    - Cellnex notes there are challenges with the current regime for how this is locally licensed, see Section 3
- There are other potential wide area use cases (i.e. in public mobile networks) which should be analysed

To ensure maximisation of economic benefit from this spectrum we would encourage Ofcom to undertake economic analysis of the relative benefits of differing approaches before determining the best method of licencing it.

We also note this band is an agenda item to be discussed at WRC-23, hence any decision regarding this band should align with Ofcom's overall strategy regarding WRC-23 and reference to any international harmonisation decisions. As a result the timing of this decision appears premature and risks becoming inconsistent with overall spectrum strategy in the medium term.

Question 3: Do you have any comments on our proposed licence conditions, licence fee or minimum separation distance?

We note the following regarding local licenced spectrum regimes in general, with the below also representing our views regarding the existing 3.8 GHz to 4.2 GHz band:

- Low power only options risks uneconomic deployment in larger building and/or campus environments as it drives high base station counts, medium power options should be easily accessible/accommodated
- Combining a low power only approaches with an annual charge per licence further increases the risk of uneconomic business cases
- A easily accessible, searchable, up to date and solution orientated (i.e. ability to suggest alternatives) database is critical
- Investment cases for private network type applications are multi-faceted and involve considerable investment beyond the communications layer (e.g. operational transformation, new plant and machinery) hence medium term security of tenure (i.e. a revocation period set to multiple years) is needed
- Minimum separation distances/exclusion zones should be based on empirical/fact based evidence and reviewed regularly to reflect any technological improvements.

We encourage Ofcom to consider the points above and reflect them in any local licencing regimes in implements or has implemented to date.

Question 4: Do you have any comments on our technical analysis?

Cellnex UK does not have any comments on Ofcom's technical analysis.