

Invitation to Tender (ITT)

Analysis of vertical use-case requirements in the 3.8-4.2 GHz band and provision of recommendations for improving the shared access licensing framework in the UK

03 May 2023

Background

In recent years, spectrum for vertical applications has gained increased interest and attraction. Private mobile networks, tailored to address the needs of niche vertical applications continue to grow in the UK and globally. The growth of such demand wasn't left unnoticed by the European Commission. In December 2021 the EC published a Mandate to CEPT to assess the shared use of the band 3.8-4.2 GHz for 5G solutions to serve innovative business models for locally licensed access to spectrum.

In the UK, Ofcom, through a statement in 2019, announced the launch of the shared access spectrum framework, opening three bands, including the 3.8-4.2 GHz band, for local area licences for the deployment of low and medium power Base Stations. Furthermore, Ofcom expanded the shared access framework by including the 26 GHz band for indoor use. As of now, there are more than 1,500 low and medium power licences issued across the 1800 MHz, 2300 MHz and 3.8-4.2 GHz shared bands in the UK. In the post-pandemic years, other countries in Europe, namely the administrations of Norway, Sweden, France, and the Netherlands, have also started authorising licences in the 3.8-4.2 GHz band, for vertical applications.

Ofcom highlighted in their Spectrum Roadmap, that exploring the scope of spectrum sharing with the use of sandboxes could accelerate innovation, enabling less restrictive technical conditions, such as high-power transmission, offering greater flexibility and meeting the increasing demand in the 3.8-4.2 GHz band. Furthermore, the technical regulatory shared access framework that is currently implemented in the UK has been agreed to be considered as the basis for the technical work of CEPT. Using the UK framework as the basis, CEPT aims to explore and identify to what extent the technical conditions in the 3.8-4.2 GHz band can be further improved, enabling additional flexibility for administrations to address the specific needs of their vertical industries.

Scope

As a result, recognising the attractiveness of the 3.8-4.2 GHz band and the ongoing discussions in the UK and in CEPT, this research study would examine the requirements of the vertical use-cases in the 3.8-4.2 GHz band and the ways by which the UK framework could be further improved to further address the needs of the industry, enhancing its adoption.

The study should aim to identify, with a forward-looking perspective, the deployment and operational requirements of a range of use-cases in the vertical industries, applicable but not only limited to the UK, through desk research, interviews with stakeholders, through analysing existing and envisaged private network applications and others.

The results of the research project could provide valuable inputs to the ongoing discussions in CEPT regarding the connectivity needs of the vertical applications. Furthermore, the results of the project could also identify and provide improvement recommendations for the UK framework, which could feed into Ofcom's sandboxes development. The scope of the research project, could be further extended to include field trials using existing equipment

available in the UK's 3.8-4.2 GHz market, demonstrating how different parameters could affect the connectivity requirements of the vertical applications in various environments.

Expected deliverables

1. A report detailing the findings including:
 - a. Analysis of the variety of existing applications and use-cases in the UK;
 - b. Envisaged use-cases of vertical applications applicable but not limited only to the UK;
 - c. Requirements and need-to-have features of those use-cases and applications
 - d. Analysis of the ways that existing licences are being authorised and used, providing suggestions on how the current licensing mechanism and coordination process could be further improved, while remaining simple and in line with the market needs
 - e. Recommendations on potential improvements to the existing UK shared access framework, to address existing and future use cases, enhancing the framework's adoption.
2. Additional field trials demonstrating how the use of different parameters impact the performance of vertical applications in terms of coverage, synchronisation, throughput etc.

Cost:

- Total budget is of the order of £25,000 (+VAT)

Timetable:

- ITT issued: 03 May 2023
- Deadline for clarification of questions¹: 19 May 2023
- Deadline to submit your tender: 02 June 2023

Duration:

- Expected duration of the study: approximatively three months, including delivering the report.
- To enable transparency and more efficient delivery management, it is suggested, at the time of commencement of the report, to establish monthly checkpoint meetings, during which UK SPF could provide updates on the progress and the findings of the research as well as to invite for a mid-point peer review of the final report.

¹ If the bidder(s) may wish to seek clarifications concerning the invitation to tender (ITT), please get in touch with Manuel R. Marti by 17.00 BST on the date stated in the timetable

Evaluation:

- the scoring system is as follows:

Criteria	Weight
Understanding the requirements	20%
Relevant experiences	20%
Methodology and approach	20%
Project management	10%
Resources allocated (CVs)	20%
Price	10%

Notes for bidders:

- Individual bidders are not discouraged however given the data requirements we will prioritise organisations/group submitters
- Unsuccessful bidders will receive their scores to help inform future tenders
- The successful contractor will be required to meet (in person or virtually) with the UK SPF drafting group to provide regular updates and feedback
- The successful bidder is expected to work with the UK SPF secretariat to create a press release and publicise the report and its findings
- Interested companies should contact Manuel R. Marti at manuel.rascado-marti@techuk.org for Terms and Conditions. Any contract or order awarded as a result of this ITT shall be subject to these Terms and Conditions. Any reference to your own conditions of contract/conditions of sale in your standard bid documentation shall be specifically withdrawn.
- Interested companies should submit one electronic copy of their quotation per proposal –including financial and technical proposals – to Manuel R. Marti at manuel.rascado-marti@techuk.org by 17.00 BST on the date stated in the Timetable. Your quotation is expected to include all required information, or clearly state the reason for being unable to do so. Any assumptions used in preparing responses should be clearly stated.
- The technical response, covering aspects such as understanding the requirements, relevant experiences, methodology and approach should be limited to a maximum of 5 pages. Your quotation shall be firm, fixed and capable of acceptance.
- Please direct any questions relating to clarification of the ITT by email to Manuel R. Marti (manuel.rascado-marti@techuk.org)
- By submitting a response, you accept that you understand the requirement and have sufficiently addressed all aspects of the tender and information provided and that you have checked all stated details, such as prices, to be correct and as intended.