

**INTELLECT Response to the MOD Consultation:
UK Defence Spectrum Management
A Consultation on: An Implementation Plan for Reform**

**Response date:
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**INTELLECT Response to the MoD Consultation:
UK Defence Spectrum Management
A Consultation on: An Implementation Plan for Reform**

Executive Summary

- 1 INTELLECT welcomes this consultation and broadly supports the thrust of the MOD's proposals to reform UK Defence spectrum management and extend market principles to the MOD's use of spectrum.
- 2 INTELLECT would highlight the particular importance of providing the greatest possible clarity, at the earliest opportunity, concerning the likely extent to which the various frequency bands are likely to provide real opportunities for significant release or shared use of spectrum.
- 3 The timing and prioritisation of the bands for which release or sharing is contemplated are important and should take into account the expected level of demand. This will be influenced by factors including the degree of harmonisation of the alternative use of the spectrum, the availability of standards and equipment and whether equivalent spectrum is available via Ofcom. With this in mind we urge the MOD to focus in particular on the possibilities to release:
 - parts of the band 2310-2450 MHz, specifically the spectrum range 2310 - 2400 MHz as this is identified as a global IMT band by the ITU
 - parts of the band normally referred to as the 3.4GHz band.
- 4 We agree with the various options that are identified in the consultation as to how the spectrum management functions could be undertaken by going forward, either internally by the MOD or with a third party. Please note our reservations concerning whether Ofcom would be the right body to exercise the military spectrum management function. The selection of the best option could be made by the MOD on the basis of a detailed analysis of the costs and benefits of the various options.
5. We highlight that the new regime would need to ensure that military spectrum use would need to continue to be safeguarded if new style Spectrum Usage Rights or innovative technologies such as Cognitive Radio were to be facilitated in the released spectrum.

**INTELLECT Response to the Ofcom Consultation:
UK Defence Spectrum Management
A Consultation on: An Implementation Plan for Reform**

Full Response Text

1. Introduction

INTELLECT welcomes the MOD's consultation on the reform of UK Defence spectrum management in 2008-12, and on extending market principles to the MOD's use of the radio spectrum.

We support the general thrust of the MOD's proposals and plans as set out in the consultation paper. We believe that these have the potential to bring significant benefits in terms of greater overall economic value derived from the radio frequency spectrum resource in the UK, without compromising the vital requirements of the MOD. The market based approach could have further benefits in potentially providing additional financial resources to the MOD for other purposes, or to assist in driving greater technical spectrum usage efficiency.

In section 2 we provide answers to the consultation questions and provide concluding comments in section 3.

2. Answers to the consultation questions

***Question 1.** Do you agree that the MOD has identified the options and factors that MOD should consider before deciding whether or not to extend the audit of the spectrum it uses?*

Yes, we agree that the most relevant options and factors have been identified in the consultation document.

***Question 2.** Do you have any views on the priority with which MOD should audit its spectrum use?*

We would suggest that effort should be focussed on frequency bands for which it may be expected that demand to use the spectrum for new purposes will be greatest. Focussing on industry's requirements will maximise the benefit to the MoD by generating value from the spectrum.

Furthermore we recommend to

- Keep going with the audit & if possible speed it up, to (a) to provide industry with information about what might be released & b) for the MoD's benefit to provide the protection requirements to be supplied to other users.
- Focus on bands that are harmonised on a global basis
- Focus on bands where standardised commercial equipment is available
- Focus on bands where 'equivalent spectrum' is not available from Ofcom

Question 3. *Do you agree with the phased approach to applying for RSA that the MOD is proposing?*

INTELLECT agrees that the introduction of RSA is a necessary pre-cursor for the move to market based spectrum management and that due to practical considerations a phased approach, aligned with the prioritised timing of the bands selected for release/sharing, is a sensible approach. If the priority of the bands to be released / shared changes then of course the RSA work programme would need to be revised accordingly.

Our view is that, to decrease risk to the MoD and to the adjacent operators, MoD RSA & SURs should be defined in the order that reduces risk in the most contended areas as soon as possible. Similarly, those applications that are most critical to MoD operations should have SURs defined earlier rather than later.

We encourage MoD to ensure that SURs for the released spectrum fully take into account the requirement to protect the retained spectrum & its use (in terms of what is 'spilt' into other bands)

We believe RSA may be required to shorter timescales to provide the capacity and flexibility to respond to changing priorities in market demand and military capability needs.

Question 4. *Do you agree with the MOD's plans for releasing and sharing the spectrum it uses?*

Yes, INTELLECT broadly supports the plans that the MOD has outlined in the consultation document for releasing and sharing the spectrum it uses.

We would emphasize the importance of making as much detailed information available at the earliest opportunity so that an initial assessment of bands by potentially interested parties can be targeted appropriately.

Question 5. *Do you agree with MOD's priorities for releasing and sharing spectrum?*

As stated in our response to Question 2 we believe that priority should be placed on bands for which demand is expected to be greatest and where significant opportunities to share / release spectrum are likely to exist. This evaluation should consider as a minimum the degree of international harmonisation, also the availability of standardised equipment, and whether 'equivalent spectrum' is available already from Ofcom.

For example, following the ITU WRC07/World Radio Conference '07, the band 2300-2400MHz is identified within the ITU Radio Regulations as one of the global frequency bands for IMT. We urge the MoD to focus in particular on the possibility of prioritising the release of this band and also 3.4GHz spectrum.

The release priorities have many drivers (reducing AIP, availability, spectrum demand, spectrum value etc.). Other drivers may exist that have not been identified in the consultation document, such as reducing the chance of the MoD causing interference to commercial use of the spectrum (and vice versa) and these may affect the priorities for releasing and sharing spectrum.

Intellect can assist the MoD in identifying the relevant bands if required.

Question 6. Do you agree with MOD's outline timetable for initial spectrum releases?

INTELLECT agrees that the timetable set out may be a suitable starting point based on the information that the MOD has available on its spectrum use and external demand at this time. However, it may be necessary to revise the timetable and priorities as new information comes to light and taking into account the principles mentioned in our response to Question 5.

Question 7. Do you agree that MOD has correctly and fully identified the factors and options that should be considered before deciding to release and acquire spectrum in the market?

Yes, we agree that the main factors and options are correctly identified within the consultation document.

We would also draw attention to the need to ensure that the military use of spectrum is properly safeguarded if and where the new approach of Ofcom's Spectrum Usage Rights (SURs) is to be entertained in the spectrum that is to be shared or released. Whilst these give flexibility and support technology neutrality, it is essential that the correct propagation models are selected or developed for the bands concerned and that interference thresholds are properly established. Similarly, due diligence actions will be required should the MOD consider deploying innovative technologies, such as cognitive radio, in military spectrum.

Furthermore, external political and economic factors (created by the EU, other nations' interests, the ITU and other bodies) may favour the release of spectrum in a different order.

We believe it is important to be aware of the influence of these external factors.

Question 8. *Do you agree that MOD has correctly and fully identified the factors and options that should be considered before deciding the best means with which to interact with the market?*

INTELLECT agrees that the document identifies the main factors and options that should be considered for release, acquisition and sharing of spectrum and the available options of geographical, frequency and time sharing of the spectrum bands.

It is our opinion that the appointment of one or more commercial Third Party Spectrum Agent / Bandmanager offers the most effective way forward. An incentivised commercial entity acting as a market intermediary on behalf of the MoD under a long enduring agreement would be able to effectively manage risk, develop enduring relationships with the markets and stakeholders alike, establish a world presence, overcome bureaucracy, and take an active part in pulling through technology.

Question 9. *Can you identify any different approaches for the MOD to manage the spectrum it uses and engage with the market to deliver better value for money for defence and the taxpayer?*

The main options seem to be addressed within the consultation document. The level of resources (internal or outsourced), including investment in IT systems, could be an additional factor to be considered in terms of how this may affect the speed at which the move towards market based spectrum management mechanisms can be achieved and the benefits that this might bring in terms of more effective spectrum management.

A mechanism should be found whereby a proportion of the AIP would go into related essential technical developments.

Question 10. *Which options (from paragraph 6.7) should be considered, or discounted, and if so why; either in respect of options already identified in section 6, or additional options, not identified?*

We interpret the options in paragraph 6.7 in simple terms to be that the MOD either (i) relinquishes management of its spectrum to Ofcom, or (ii) further builds up its own internal spectrum management capability for its own requirements and also interacts with the market itself, or (iii) manages its own spectrum use and reforms defence related spectrum management for military use, but has a third party manage, exploit and acquire spectrum on the commercial market.

We consider that all of these options should be considered, since each may have merits. The best course might be identified on the basis of a business case where the costs and benefits of each option are analysed in detail. This should cover the costs and benefits to the MOD as well as whether one option or the other is likely to give greater benefits to the value that can be derived from the radio spectrum resource in the UK overall.

However a further consideration should be whether Ofcom might face a considerable conflict of interest in managing both the public spectrum and military spectrum where different policy issues might need to be considered. And in that there would be no competition between the two routes of access to spectrum.

Question 11. Which issues relating to section 6 should be considered when evaluating options, and if so why; either in respect of issues already identified in that section, or additional issues, not identified?

INTELLECT agrees that all of the identified issues could be relevant and should be considered.

Question 12. Is the scope of decisions required against each of the four questions at paragraph 6.3, as indicated in section 6, sufficient and, if not, how and why it should be extended?

INTELLECT agrees that the scope of the four questions identified in section 6.3 of the consultation is sufficient.

3. Concluding comments

INTELLECT represents a large proportion of the manufacturing industry in the UK having a direct interest in the spectrum referred to in this response document. Moreover, INTELLECT and its members are almost continuously engaged with multiple European bodies in order to be aware of the requirements for additional harmonised spectrum in the UK that can enable new and important services to be launched for the benefit of the UK citizen consumer. The MOD's proposals are therefore of very great interest to us.

We therefore welcome this consultation document and broadly support the thrust of the proposals. We have provided our views on the questions posed and have also highlighted particular issues that we feel are important. We look forward to receiving further details of the MOD's plans for reform of defence spectrum management and the possible opportunities for release and sharing of spectrum as these evolve. We would of course be pleased to discuss any of our points in greater detail if required.

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