

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title: UHF and VHF spectrum planning - Call for inputs to Ofcom's plans for the potential procurement of models, tools & services

To (Ofcom contact): **Andrew Chong**

Name of respondent: **Andrew Stirling**

Representing (self or organisation/s): **6Harmonics, Carlson Wireless, COSTECH, Google, InterDigital, Microsoft, Neul, Sky, WaveTek**

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

| | | | |
|----------------------|-------------------------------------|---|--------------------------|
| Nothing | <input checked="" type="checkbox"/> | Name/contact details/job title | <input type="checkbox"/> |
| Whole response | <input type="checkbox"/> | Organisation | <input type="checkbox"/> |
| Part of the response | <input type="checkbox"/> | If there is no separate annex, which parts? | |

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here.

Name Andrew Stirling Signed (if hard copy)

Industry Response to Ofcom's Consultation on UHF and VHF Spectrum Planning

3rd October 2013

Introduction

We the undersigned companies¹, who are members of the Dynamic Spectrum Alliance (DSA), are delighted to have this opportunity to respond to Ofcom's consultation on potential future models, tools and services for planning in UHF and VHF bands. We do not endorse any particular tools or suppliers. Instead, we outline below some important principles that will help Ofcom ensure that spectrum makes the greatest possible contribution to the UK economy and society.

Using planning tools to improve spectral efficiency and better understand the scope for spectrum sharing

With the growing use of mobile devices and a burgeoning host of devices with wireless network interfaces, the demand for spectrum capacity has never been greater. Demand for spectrum below 1 GHz is especially high because this spectrum is particularly well-suited for wireless connectivity. This growing demand underlines the importance of efficient planning of services in UHF and VHF, such that established services can be maintained whilst accurately capturing the maximum unused capacity available for sharing.

Dynamic spectrum sharing technology offers great potential to radically increase the efficiency of spectrum use. However, achieving its full potential depends on having as accurate a picture as possible of the protection required by the other services sharing the spectrum. It is also important for Ofcom to have access to reliable and independent means of determining the sharing parameters, to ensure that spectrum sharing works fairly and efficiently. Therefore, we have the following recommendations:

- Information on planning and the underlying data should be made publicly available, in order to stimulate industry innovation. In fact, rather than putting effort into tendering for a new tool, Ofcom should make every effort to opening up access to the current model and underlying data and algorithms. Ofcom can then invite suggested improvements in open competition and incorporate the best of these new technologies as they emerge
- Ofcom should also consider how data from spectrum sensing might be included to enable a more dynamic tool, which could serve:
 - Operators, by helping to manage interference, and
 - Regulators, by helping to optimise the sharing framework.
- Tools such as the Microsoft Spectrum Observatory² and spectrum sensing solutions from companies such as CRFS and InterDigital provide a glimpse of the potential of such approaches to contribute to more effective spectrum management in the future.

¹ 6Harmonics, Carlson Wireless, COSTECH, Google, InterDigital, Microsoft, Neul, Sky and WaveTek

² See: <http://spectrum-observatory.cloudapp.net/>

Question 1: Do you have a specific requirement for access to a new planning model and if so, what are your specific requirements?

Ofcom should provide access to the raw output from the tools it uses for spectrum planning, as well as the underlying propagation model algorithms, assumptions, terrain and clutter data. Such openness will encourage industry investment in improvements which could be incorporated in future tools as well as providing greater certainty for all users sharing spectrum.

Question 2: Have we correctly identified and characterised the potential options set out above, and what other options – if any – should be taken into account in our consideration?

[DSA has no comment on this question.]

Question 3: Do you have a preference for (one or more) particular options?

In parallel with reviewing new tool technology for procurement, Ofcom should initiate a continuing cooperation with industry to push forward the efficiency with which spectrum can be shared. Firstly, it should make its planning model(s), assumptions and underlying data available to the industry to encourage innovation and improve precision in predicting coverage. It should then establish a working group with industry to establish regulatory requirements and enable the 'best in class' innovations to be incorporated in the planning approach. Openness should be a requirement for any model on which Ofcom will base its future spectrum management decisions.

Question 4: Have we correctly identified and characterised the potential impacts set out above, and what other impacts – if any – should be taken into account in our consideration?

[DSA has no comment on this question.]

Question 5: What evidence, whether qualitative or quantitative, should we obtain and/or take into account in considering each of these potential impacts? Please identify any sources of specific evidence to which we should have regard.

[DSA has no comment on this question.]

Question 6: Have we correctly identified and characterised the potential benefits set out above, and what other benefits – if any – should be taken into account in our assessment?

Industry and consumers could benefit from a cooperative approach in which industry and regulators work together to advance the state of the art in spectrum planning. This should be a continuing process (in parallel with any tender(s) for improved tools). The continuing process would provide ongoing opportunities to benefit from rapid advances in technology, building on whatever tool(s) Ofcom has at its disposal.

Question 7: What evidence, whether qualitative or quantitative, should we obtain and/or take into account in assessing each of these potential benefits? Please identify any sources of specific evidence to which we should have regard.

Ofcom should invite contributions from industry on opportunities for improvement in the current approach. Geolocation database providers have a particularly well-developed understanding of what the current state of the art can achieve as well areas where there is room for improvement.

Question 8: Should we place different weights on some impacts and benefits than on others?

[DSA has no comment on this question.]

Question 9: Do you have any comments on the work plan we have outlined? e.g. do you agree with our proposed timing and approach for securing a new model?

We would suggest making step *iv*) the first priority (enabling open access to the current model, assumptions and input data). Then establish an open process, with periodic reviews to determine which new elements should be incorporated in the spectrum planning process and how the tools and data should be shared between Ofcom and the industry.