Intellect response to the Ofcom Call for Input:

Spectrum Review

A review of the management of the spectrum currently used for point-to-point fixed links and other services that share this spectrum

About Intellect

Intellect is the trade association for the UK technology industry. In 2007, the industries Intellect represents accounted for 8% of UK GDP, £92bn of Gross Added Value and employed 1.2m people.

Intellect provides a collective voice for its members and drives connections with government and business to create a commercial environment in which they can thrive. Intellect represents over 750 companies ranging from SMEs to multinationals. As the hub for this community, Intellect is able to draw upon a wealth of experience and expertise to ensure that its members are best placed to tackle challenges now and in the future.

Our members' products and services enable hundreds of millions of phone calls and emails every day, allow the 60 million people in the UK to watch television and listen to the radio, power London's world leading financial services industry, save thousands of lives through accurate blood matching and screening technology, have made possible the Oyster system, which Londoners use to make 28 million journeys every week, and are pushing Formula One drivers closer to their World Championship goal.

In the past 12 months 14,500 people have visited Intellect's offices to participate in over 550 meetings and 3,900 delegates have attended the external conferences and events we organise.

Response

Question 1

What are likely to be the key underlying factors influencing changes in demand for this spectrum (in terms of quantity of spectrum or preferred bands) over the next 5 to 10 years? Please provide band specific evidence to support your view.

Intellect anticipates that demand for Ofcom managed fixed links bands will reduce significantly from providers that acquired spectrum in the 2008 auction, as they tend to use those bands in preference to ones managed by Ofcom. This trend is already apparent in the consultants' report published alongside the call for input where across many bands there is a sharp decline in licence numbers. However, the spectrum auctioned in 2008 is concentrated in the hands of a relatively small number of players, including some (but not all) of the mobile network operators. The bands managed by Ofcom represent an alternative source of supply of spectrum for microwave links, which helps to maintain a competitive market. The relatively high annual fees for the Ofcom managed bands compared to market value of spectrum that was revealed in the auction is an issue that intellect has previously raised and hopes that Ofcom will now address in the fees review that is underway. Current fees are higher than seems necessary on spectrum management grounds, particularly in remote areas where there is no likelihood of congestion now or in future given the large amount of spectrum available across many bands.

Question 2

Will the reducing trend in the numbers of fixed links in the spectrum under review to support mobile backhaul continue? If so, in which bands will this reduction be most apparent and how will link capacity/bandwidth requirements change? What factors will have the biggest influence on the outcome? In your view, what will be the impact, on spectrum demand, of deploying next generation mobile networks for example using Long Term Evolution (LTE) standards?

The award of additional mobile spectrum and upgrade of mobile networks to LTE will substantially increase the overall demand for backhaul. Much of this extra demand will be satisfied by the increasing availability of fibre solutions, the (non-Ofcom managed) spectrum that has been auctioned and availability of millimetric bands, but there may well still be an increase in the demand for links in the bands managed by Ofcom. As the largest use of microwave links is for backhaul of mobile networks and the rollout of 4G networks will take place in the next few years, this is not a good time for Ofcom to reduce the availability of spectrum for backhaul, especially as the predictions in the Aegis study may be sensitive to small changes in assumptions.

Question 3

How might the changes to current or future public safety networks influence the existing and future requirement of the spectrum under review for fixed link backhaul for public safety applications over the next 5-10 years? In which spectrum bands is demand most likely to rise and how much spectrum would be required? May demand for bands currently used by public

safety applications decrease? Is it likely that the public safety services may require access to the spectrum under review for other data networks or for alternative uses?

No comments.

Question 4

How likely is it that use of CCTV by local authorities will significantly increase overall demand for fixed link infrastructure spectrum over the next 5 to 10 years? If so, in which bands is the additional demand most likely to be required and why? Do you have any information about the relative costs of wired and wireless CCTV links in urban and rural areas?

No comments

Question 5

(a) What are the main factors (technical or regulatory) that determine preferences for one band over another for satellite applications? Do these factors vary between different types of satellite applications (Mobile, Fixed, Broadcasting and Science services)? In which bands will we see the most significant changes in demand in the next 5 to 10 years, and why?

(b) A number of the frequency bands under review are currently used for satellite Permanent Earth Stations (PESs), for example to feed Direct to Home satellite broadcast services. What are the continued and future spectrum requirements for satellite PESs (E-s & s-E) likely to be and in which bands? Please provide evidence to support your views.

(c) During recent years, some commentators have forecast significant demand for spectrum to support satellite consumer terminals. To date this demand has been slow to materialise. Do you have information which would help inform a more accurate assessment of future demand for spectrum in bands currently shared with fixed links?

(d) Are there factors specific to the satellite based communications sector which mean that it faces particular difficulties evidencing and satisfying demand for spectrum? If so, how might these be overcome?

The existing sharing arrangements between services are generally satisfactory.

Question 6

What is the likely timetable for rollout of Smart Grids and what impact will these developments have on demand for spectrum in the bands covered by this review?

No comments

Question 7

What impact will DAB expansion have on demand for the spectrum under review? Are there any other demand drivers that Ofcom should consider in relation to broadcasting use or services related to broadcasting?

No comments

Question 8

a)What is the likely demand for broadband wireless access applications in the spectrum under review and which bands is this likely to specifically impact? How should Ofcom consider the demand for backhaul to support such applications and is such backhaul demand likely to arise in the spectrum under review?

No comments

b) Do you consider that the emergence of rural broadband fixed wireless access will influence overall demand for the spectrum under review and to what extent? Which bands is this likely to impact most?

Intellect expects backhaul of wireless broadband solutions might generate some demand for fixed links for backhaul; as for mobile backhaul much of this is likely to be accommodated in spectrum already awarded or by fibre, but there may still be a need for additional links in bands managed by Ofcom.

Question 9

Do you consider that there will be a material additional demand from the PMSE community for access to the spectrum under review? Which bands under review is this likely to impact most and to what extent?

No comments

Question 10

How might the economics of new fibre provision (with or without reliance on regulatory remedies – whether active or passive), as compared with wireless provision of both terrestrial and satellite based services, impact on the requirements for wireless backhaul? We are interested in the possible impact, in terms of the extent of possible substitution for wireless links and in terms of the nature of wireless links affected (urban v. rural, lower / higher frequency bands).

With the deployment of LTE in the next few years, the total demand for backhaul capacity will increase substantially. As fibre is progressively rolled out it is likely that it will have an increasing role and microwave will be relatively less important in areas where it is available. This does depend however on who is providing the backhaul service and the relative economics of different solutions in specific scenarios.

Question 11

What issues relating to spectrum access for different services do you think Ofcom should review? How might Ofcom start to rely more on commercial decisions when determining allocations of spectrum in the bands covered by this review?

Ofcom has not yet identified any strong demand from other services for the spectrum in most of the Ofcom managed bands Therefore, it would be prudent for Ofcom to wait and see how demand for backhaul spectrum develops as 4G networks are rolled out before making any major changes to the existing allocations.

Decisions need to be based on clear evidence of demand and clear benefits to citizens and consumers. The importance of incumbent services should also be considered. Where sharing is possible, it should be encouraged.

Question 12

We would welcome views on the potential for more widespread use of market based approaches to the spectrum under review such as third party band management, and the regulatory steps which would need to be taken to facilitate this.

Intellect members consider that Ofcom manages fixed links bands well. It is not clear that there are any net benefits in outsourcing spectrum assignments further.

The auctions in 2008 have opened a second source of spectrum and this will be increasingly used.

Faster licensing timescales would be helpful.

Access to Ofcom systems electronically to study feasibility of new assignments would be useful.

Question 13

(a) Do you consider that any changes should be made to the Ofcom licence fixed link product set?

No comments

(b) Might a more flexible approach to licensing, in bands where demand is unlikely to exceed supply for the foreseeable future, enable more intensive use of these bands? If so, what form might the licensing take and in which bands would this be appropriate?

No comments

(c) Are there other actions which Ofcom could take to improve spectrum efficiency by encouraging migration to or use of higher, less heavily used, bands, with a view to freeing up spectrum in popular lower frequency bands?

No comments

Question 14

What is your view on the impact of geographically uniform fees for spectrum bands included in this review? If you consider that a geographic fee modifier would promote more efficient use of spectrum, how might that modifier be constructed?

Intellect encourages Ofcom to look at how spectrum fees can be reduced in geographic areas where spectrum congestion is unlikely to arise. Current fees are a barrier to spectrum use in some cases and are not in the interests of consumers and not necessary to secure optimal and efficient use of the spectrum.

Question 15

Are there other aspects of the review on which you have evidence that would help inform our consideration of these issues and formulate proposals for consultation?

As Intellect has previously requested, Ofcom is encouraged to progress its review of annual spectrum charges and to bring these closer in line with the market values revealed in the 2008 auction. The reference fee and link length factor are examples of where the current formulae should be reviewed. Information on the administrative costs of managing spectrum would be of interest to members.

Question 16

Is the proposed list of bands to be included within the review (as set out in Figure A.5.1 in Annex 5 appropriate?

Yes.