

**Intellect response to:**

**Ofcom Consultation on 800 MHz  
and 2.6 GHz spectrum release**

## 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.

## Consultation question responses

---

### Note

Due to the delayed publication of Ofcom's separate documents on specific technical issues associated with the spectrum, Intellect reserves the right to revisit submitted comments until publication and review of these documents.

### Mobile spectrum bands

*Question 4.1: What use, if any, would you make of the top 2x10 MHz of the 800 MHz band in the second half of 2012 if it were available for use? What would be the benefits for citizen and consumers of such availability?*

Intellect has no comment on this question as it is for the operators to decide what use they would put the band to. The citizens and consumers would clearly be interested in new affordable services being available as soon as possible.

*Question 4.2: If we were to offer shared access low-power licences in some way, do you have any comments on the appropriate technical licence conditions which would apply for the different options?*

Intellect agrees that accommodating low power systems delivered to standard terminal devices will help promote innovation and competition, and notes the trend towards small cell systems as a means to achieve substantial increases in network capacity. Such systems need adequate bandwidth to deliver truly broadband services. In this respect, Intellect considers that the 20MHz bandwidth would be ideal. However this should not constrain unduly the provision of high power services. On this basis, some members have therefore suggested that a 2 X 10 MHz exclusive allocation for low power applications is more appropriate.

The number of licences and the technical licence conditions, as well as coordination or cooperation arrangements, need to ensure that interference issues are manageable. Intellect would be concerned if interference management techniques in shared access low power spectrum required UK specific implementations in terminal devices.

### Competition assessment and future mobile markets

*Question 5.1: Do you agree that national wholesalers need a reasonable overall portfolio of spectrum to be credible providers of higher quality data services? In particular, do you agree that national wholesalers need some sub-1 GHz in order credibly to be able to offer higher quality data services? Please state the reasons for your views*

There are mobile operators who have been offering services in the UK for nearly 20 years without access to sub 1GHz spectrum. Higher quality data services require larger amounts of spectrum and 2.6GHz spectrum offers this capability. Article 8 of the Government direction does not specify and it should be for the bidders to decide whether their portfolios should include sub 1GHz spectrum. However a mix of both high and low frequency spectrum will offer a high quality service in both urban and rural environments, allowing high data rates and in building penetration.

Intellect notes that there are other means to ensure that a sufficient number of MNO's have the capability to provide wholesale access to a national network. For example, wholesale competitors could in part rely on regulated wholesale access to other networks (e.g. where there is insufficient spectrum to assign a certain type of spectrum to all operators) or network sharing in rural areas would be an alternative approach.

*Question 5.2: Do you agree there is a material risk of a significant reduction in the competitive pressures, at least to provide higher quality data services, in retail and wholesale markets without measures in the auction to promote competition? Please state the reasons for your views.*

Yes, Intellect agrees that measures are necessary. The trend is for network consolidation and mergers. Therefore without specific measures to encourage new competition there is a risk that innovation in higher quality data services in retail and wholesale markets could be reduced.

*Question 5.3: Do you agree there is a risk of potentially beneficial sub-national RAN uses not developing without measures to promote competition? Please state the reasons for your views.*

Yes, Intellect agrees that sub-national networks would provide additional competition opportunities if Ofcom creates opportunities in the auction to facilitate these.

*Question 5.4: Do you agree with the analysis that at least four competitors are necessary to promote competition?*

Intellect does not necessarily agree with this view. It is more important that the successful operators have access to sufficient spectrum to offer genuine high speed services rather than being constrained by inadequate amounts of spectrum. Ofcom has not demonstrated in the condoc the merits and demerits of a four operator market and the impact on the delivery of high speed services in a market analysis.

*Question 5.5: Do you agree that the specific measures we propose to take to ensure there are at least four holders of such spectrum portfolios are appropriate and proportionate?*

Intellect supports Ofcom's overall aims to ensure long term competition including opportunities for new entrants. However it would prefer the market to decide how many operators there are rather than introducing artificial measures, noting that competition can be promoted in other ways including sub-national networks and at the service provider level.

*Question 5.6: Given the measures we propose to take to ensure four holders of spectrum portfolios sufficient credibility to provide higher speed data services, do you agree that it would not be appropriate or proportionate to introduce a regulated access condition into the mobile spectrum licences to be awarded in the combined award?*

Intellect does not share Ofcom's confidence that the approach Ofcom proposes will be sufficient and is better than other approaches to promote competition. The case for a 4 operator market has not in any event been made (see A 5.4).

*Question 5.7: Do you consider that we should take measures to design the auction to assist low-power shared use of 2.6 GHz? If so, what specific measures do you consider we should take?*

Yes, Intellect welcomes Ofcom's intent to enable such new innovation and competition that would benefit consumers. The low power licences need to be of adequate bandwidth and the number and technical conditions needs to be such that interference issues are adequately managed. In the same way that minimum spectrum packages are proposed to be available for the national operators, spectrum for small cell systems for new players should also be guaranteed within the auction design.

## **Mobile coverage and related issues**

*Question 6.1: Do you have any comments on the proposal to include in one of the 800 MHz licences an obligation to serve by the end of 2017 an area in which 95% of the UK population lives, while providing a sustained downlink speed of 2Mbps with a 90% probability of indoor reception? Do you think there is another way of specifying a coverage obligation that would be preferable?*

Coverage obligations have always been difficult to specify and even more difficult to prove. Intellect has doubts as to whether these targets can be met with 2x5MHz of spectrum due to capacity constraints and notes that the indoor mobile broadband service availability target is less than that achieved already by the fixed network plus wifi can already provide indoors. The solution is inappropriate for the problem posed.

*Question 6.2: We would welcome views and evidence on the costs and benefits of imposing an additional coverage obligation focussed on particular geographical areas, and if such an obligation were to be imposed what might be the appropriate specification of geographic areas?*

Intellect has no evidence to support this proposal either way.

*Question 6.3: Do you have any comments or evidence on whether an additional obligation should be imposed to require coverage on specific roads?*

Intellect has no comment on this proposal

*Question 6.4: Do you have any comments on our proposal not to use the combined award to address existing not-spots?*

Intellect supports this view as there are other mechanisms in place to address these areas.

*Question 6.5: Do you have any comments on our proposal not to impose 'use it or sell it' obligations but to consider including an additional power to revoke during the initial term of the licences?*

Intellect supports the use of possible revocation powers as laid out in paragraph 6.54 of the consultation document.

## **Non-technical licence conditions for 800 MHz and 2.6 GHz**

*Question 7.1: Do you have any comments on the proposals relating to the duration of the initial licence period, our rights to revoke the licence during this period, the charging of licence fees after the end of the initial period and our additional revocation powers following the initial period?*

Intellect agrees a five year notice of revocation seems reasonable. We also agree with Ofcom's view that winning bidders should have reasonable time to plan and deploy services that make efficient use of their new spectrum, and earn a commercial return for their substantial investment.

*Question 7.2: Do you have any comments on the proposal to amend the spectrum Trading Regulations to apply to the auctioned licences in the 800 MHz and 2.6 GHz bands, to include a competition check before we consent to a spectrum trade of mobile spectrum and not to allow transfers that would increase the number of 2.6 GHz low-power licensees?*

Intellect supports any measures to simplify the spectrum trading arrangements and to reduce if possible the engineering coordination costs associated with the increase of the number of low power licensees.

*Question 7.3: We welcome views on the merits of the proposed approach to information provision; in particular concerning the type of information that may be helpful and any impacts that publication of information might have both on licence holders and the wider spectrum market.*

Intellect supports measures that increase the market's transparency, providing Ofcom is specific about what minimum information is required, and it does not put an undue burden on the operators in complying. There is also need for a degree of confidentiality and some method of publishing the information in an aggregated way should be employed.

## **Spectrum packaging proposals for the 800 MHz and 2.6 GHz award**

*Question 8.1: Do you agree with the way in which we are taking account of the main factors relevant to spectrum packaging and why?*

The most important factor is that any band plan follows internationally harmonised standards. If the vision of having high speed mobile access is to be realised maximisation of the use of higher channel sizes should be encouraged. The use of 2 x 1.4MHz channel sizes does not meet that objective.

*Question 8.2: Are there other factors that we should consider to develop our approach to packaging? If so which ones and why?*

See answer to Q8.1.

*Question 8.3: Do you agree with our packaging proposals for the 800 MHz band? Please give reasons for your answer.*

Intellect recognises that Ofcom is interested in supporting 4 national operators but we are concerned that this spectrum award is potentially the largest one that is likely to occur in the foreseeable future. It has to meet the needs of the market for at least the next 5-10 years when the market will be considerably more developed than it is today for high speed mobile data services. It is vital that short term interests do not get in the way of giving the UK market the opportunity to develop full high speed services. As we have said in responses to earlier questions there are other ways of promoting competition. For example, reserving shared spectrum suitable for small cell systems and wholesale access arrangements to support competition at the service provider level.

*Question 8.4: Do you agree with our proposal not to allow relinquishment of 900 MHz spectrum and why? Do you have any other comments regarding our packaging proposals for the 900 MHz band? spectrum and why?*

Intellect has no view on this matter.

*Question 8.5: Do you agree with our proposal not to allow relinquishment of 1800 MHz spectrum and why? Do you have any other comments regarding our packaging proposals for the 1800 MHz band?*

Intellect has no view on this matter.

*Question 8.6: Do you agree with our proposal not to make provisions to include 2.1 GHz spectrum in this auction and why?*

Intellect agrees with this.

*Question 8.7: Which aspects of our packaging proposals for the 2.6 GHz band do you agree with and why?*

Intellect supports the proposals that the UK follows the CEPT band plan in respect of paired and unpaired spectrum. The results of auctions in other countries is not necessarily a guide to what might happen in the UK and these results could have been due to the regulator influencing the bidding by introducing regulatory conditions which may have skewed the results. Intellect also supports Ofcom seeking to ensure contiguity of lots where possible and favours the 20MHz option for the low power shared licences to ensure there is sufficient capacity to support higher speed services in the future.

*Question 8.8: Do you agree with our proposed approach for eligibility points and why?*

Intellect has no view on this.

*Question 8.9: Which approach to reserve prices do you think would be most appropriate to secure optimal spectrum use in the interests of citizens and consumers, and why?*



Intellect has no specific view on the values set on the reserve prices but would be concerned if they skewed or distorted the market from operating properly or deterred the possibility of new entrants.

## **Auction design and rules proposals for the combined award**

*Question 9.1: Do you agree with our proposals for the auction design and why?*

Intellect has no comment on this, other than to say that the auction design needs to address the issues discussed above.

*Question 9.2: Do you have any comments on the proposed auction rules as explained in section 9, Annex 9 and Annex 10?*

Intellect has no view on this, other than to say that the auction design needs to address the issues discussed above.

*Question 9.3: Do you have any comments on how we should approach the payment of deposits and licence fees?*

Intellect would be concerned if these became a barrier for potential bidders

## **Revising annual licence fees for 900 MHz and 1800 MHz**

*Question 10.1: Do you have any comments on our proposal to use 800 MHz price information as derived from the auction to estimate the full market value of 900 MHz spectrum?*

Intellect has no view on this.

*Question 10.2: Do you have any comments on our proposal to use an average of 800 MHz and 2.6 GHz price information as derived from the auction to estimate the full market value of 1800 MHz spectrum?*

Intellect has no view on this.

*Question 10.3: Do you have any comments on the proposed approach to convert lump sum amounts into annual payment?*

Intellect has no view on this.