

Telefónica UK's response to:

Securing long term benefits from scarce spectrum resources
A consultation by Ofcom

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1. Executive Summary

1. Telefónica UK Limited ("Telefónica") welcomes this opportunity to comment on Ofcom's most recent consultation on the future of Band IV and Band V; 600MHz and 700MHz¹.
2. We think Ofcom is right to take a step back now and determine the optimal way forward, taking into account the likely benefits of greater harmonisation of the 700MHz band for mobile services in the future. It is important that Ofcom learns from the 800MHz process in three ways:
 - a. It sets the expectations of the broadcasters and TV manufacturers now, such that there will be no interference mitigation paid for by the new owners of the 700MHz spectrum. In this consultation Ofcom identifies that 80% of today's DTT receivers support first generation DTT, but by 2020 this will fall to between 10-20%, as natural device replacements allows the introduction of second and third generation equipment². With such a churn cycle prevalent in the consumer electronics market it follows that, given a clear signal in 2012, there is also time for manufacturers to protect their devices from out of band interference and put those products into the market, so that there is no interference risk from changes of use in the UHF band in the future. It is not sufficient for broadcasters and TV manufacturers to leave their systems wide open to an interference issue that is already apparent, such that the taxpayer or the mobile operators have to pick up the tab for this inactivity, at a later date.
 - b. Maximise the level of harmonisation in Europe and between Europe and the APT plan, such that there is the need to only undergo the clearance process once, unlike the two-step 800MHz process, which led to 800MHz being available later than other EU Member States, notwithstanding that Ofcom started to look at the issue ahead of most other administrations.
 - c. Set expectations now that following any competition remedies in the Combined Award, the policy for engineering market outcomes through tailoring of an otherwise efficient auction processes is at an end. In this way, Ofcom can secure the timely release of spectrum.

Telefónica UK Limited
June 2012

¹ <http://stakeholders.ofcom.org.uk/binaries/consultations/uhf-strategy/summary/spectrum-condoc.pdf>

² §§4.43-4.44 of the consultation

2. Future spectrum requirements for DTT and mobile

Question 1: Do you agree that meeting the future growth in demand for mobile broadband capacity will deliver significant benefits to citizens and consumers?

3. Dealing with future demand for mobile services can be dealt with in a number of ways, for example:
 - a. Building more sites;
 - b. Releasing more spectrum;
 - c. Increasing technological efficiency, e.g. through the liberalisation of spectrum; and
 - d. Creating economic incentives to use scarce resources wisely, such as through the commercial pricing (by operators) of services which consume large amounts of bandwidth.

4. All of these mechanisms have their place and no single mechanism is likely to be sufficient to deal with demand (except to the extent that (d) is proven to be effective). Therefore the release of further spectrum is one part, albeit an important part, of the continuing drive to increase capacity in mobile broadband networks. It has been demonstrated through a large number of studies and analyses, including those cited by Ofcom in the consultation³, that increasing capacity in mobile broadband networks to satisfy future demand delivers significant benefits to citizens and consumers.

Question 2: Do you agree that additional harmonised mobile broadband spectrum will play an important role in meeting the future growth in demand for mobile broadband capacity? What are your views on the overall quantity of harmonised spectrum that will be required to meet future demand? How does this compare with the expected increase in spectrum for mobile use discussed in this section?

5. For mobile broadband spectrum to provide the maximum value it must be harmonised, at least at a European level and preferably in multiple regions. Economies of scale are not readily achievable if mobile operators do not have access to standardised network equipment and devices, and the incorporation of non-standard bands becomes especially difficult in multi-band devices, which include a large number of harmonised bands and are limited in the number of additional bands that can be covered. The amount of additional spectrum that may be needed to meet future demand is currently under study in Telefonía, as well as across Europe and the ITU, and the Real Wireless report commissioned by Ofcom identifies many of the potential candidate bands that could be harmonised across multiple regions.

³ <http://stakeholders.ofcom.org.uk/binaries/consultations/uhf-strategy/summary/spectrum-condoc.pdf> see footnotes 25, 26.

Question 3: Do you agree that additional harmonised spectrum provided by the 700 MHz band could play an important role in meeting the future growth in mobile broadband capacity?

6. Telefonía believes that the 700MHz band will be one of the most important internationally harmonised bands for wide-area mobile broadband services, because it is already utilised in other ITU regions. As such, use of this band in a way that is compatible with, at least, the APT region will allow the maximum scale economies to be realised in network equipment and devices.

Question 4: Do you agree that the value of the role played by the 700 MHz band in meeting the future growth in mobile broadband capacity would be greater if it becomes available before other capacity enhancing techniques have been exhausted at existing mobile sites?

7. Waiting for other techniques to be exhausted before preparing the 700MHz band for use risks a “capacity crunch”. The experience of 800MHz shows that it takes 7-10 years for spectrum to be repurposed for a new use. If Ofcom waits until the spectrum released in the Combined Award is approaching exhaustion then it will be too late to smoothly provide further capacity.
8. If there is a “capacity crunch” it is likely that MNOs will need to ration the supply of mobile broadband capacity which may limit the economic potential of mobile broadband and/or the uses to which the spectrum can be put.
9. Building denser and denser networks appears to have limited further scope, for reasons of economy and practicality. At the densest parts of today’s networks, operators are left with few or no options for densification and it is these areas that will be the first to fill-up, even with the availability of spectrum released in the Combined Award.

Question 5: What timing of 700MHz release would maximise the benefits associated with its use for mobile broadband?

10. Telefonía believes that the harmonisation benefits outweigh any timing benefit and as such, the timing for release of this spectrum should be aligned with the timetable for harmonisation and an EU wide decision securing release of the band in the maximum number of jurisdictions.

Question 6: Do you agree that DTT will continue to play an important role in providing universal low cost access to PSB content over at least the next decade?

11. We believe that there are two time horizons to consider, 2012-2020 and beyond 2020. DTT is a well-established technology but it is only after digital switchover that the technology will be truly able to determine its full potential. Within the timeframe to 2020 we will see the deployment of fibre and LTE broadband networks as well as the development of more non-linear (and linear) distribution platforms.

12. Consequently, Telefónica believes that DTT should receive a comparable allocation of spectrum until 2020, by refarming the 600MHz band. From that point, it would be wise to review whether DTT should compete with other platforms on a level playing field, both in terms of the input resources such as spectrum, but also through a common regulatory environment.
13. The forthcoming Communications Bill presents an opportunity to put the UK regulatory environment on the right road, towards a world where video entertainment, on whatever platform, is regulated on the same basis.

Question 7: Do you agree that, absent major changes in available spectrum, DTT would continue to remain attractive to viewers and deliver important benefits to citizens and consumers over at least the next decade?

14. We believe that a timeframe to 2020 should be used in order to give DTT providers sufficient investment certainty whilst not ruling out a more market oriented approach to spectrum allocation for DTT in the long run.

Question 8: What are your views on the future technical evolution of the DTT platform? Are there other relevant factors affecting future DTT spectrum requirements that we should consider as we develop an approach to secure benefits from UHF band IV and V over the long term?

15. We have no comment.

Question 9: Do you agree that a longer term approach to secure benefits from UHF band IV and V should consider how to safeguard benefits delivered by the DTT platform?

16. It is important to ensure that the benefits are secured, in order to ensure investment in this platform continues and no chilling effect is created by uncertainty as to the future of DTT in the short to medium term (ie to 2020).

3. Securing long term benefits for citizens and consumers

Question 15: Do you agree that the approach that is most likely to secure significant benefits from UHF band IV and V over the long term is one that enables the release of the 700 MHz band for mobile broadband whilst also ensuring the role of the DTT platform is safeguarded?

17. Telefónica agrees that re-use of the 600MHz band for DTT and release of 700MHz is the right approach for the medium term. However, in the long run (ie post 2020) we do not believe that DTT should retain a right to a finite spectrum allocation and that DTT platforms should be exposed to market disciplines in order to ensure that the most efficient uses are made of scarce spectrum resources.
18. Each DTT MUX occupies 8MHz of spectrum and can support between four and eight DTT channels. However, the frequency re-use scheme means that about twenty five national 8MHz blocks are required to support the six notional 8MHz national MUXs in operation today.
19. Broadly speaking therefore, each standard definition channel consumes between 4-8MHz of spectrum. So, for example, the entire 60MHz of spectrum released at 800MHz for mobile broadband could be consumed by just seven DTT channels. Ofcom is of the view that this harmonised spectrum is highly valuable and is an important asset that needs to be distributed by auction to the highest bidder (ie efficiently). It is therefore important to understand how “efficient” the use of DTT spectrum is, in comparison.
20. The annual Communications Market Report⁴ shows that audience share of the five main PSB channels on DTT tracks the audience share of all homes. At Figure 2.53 in the same report, we can see that other channels take about 42% of DTT usage.
21. To put those figures another way, 58% of DTT usage is occupying just 40MHz of spectrum. Ofcom states at §6.24 of the consultation that “*approximately 45 free to air and 5 pay TV channels [are] simultaneously broadcast on the DTT platform in peak hours.*” This means that whilst:
 - a. 58% of consumers' time is taken up by using 10% of the resources;
 - b. 42% of consumers' time is utilising the remaining 90% of resources.
22. This does not appear to be an efficient way to use such a scarce resource as spectrum. The results are even worse at the margin. BARB publishes data on audience viewing figures.⁵ “Channel 5+1”, for example, has just 0.2% of total viewing, yet it occupies the same amount

⁴ http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr11/UK_CMR_2011_FINAL.pdf p.140

⁵ http://www.barb.co.uk/report/monthly-viewing?period%5B%5D=20120401&button_submit=View+Figures

of spectrum as BBC1 with 20.5% of total viewing⁶. BBC 1 occupies the same amount of spectrum as Channel 5+1, but has utilisation of 100x more.

23. In the absence of:

- a. A tighter supply-side for channel slots (spectrum); and
- b. Efficient price signals for the utilisation of spectrum resources

DTT will continue to profligately waste resources on TV channels with marginal viability that might be more efficiently delivered on other platforms (e.g. satellite or online).

24. Therefore, Telefónica is strongly of the view that in the longer run, once digital switchover has been completed and a period of time has elapsed whereby DTT has competed against other platforms, say in 2017, Ofcom should undertake a more fundamental review of DTT spectrum allocation from 2020. In this way it can determine whether, in light of the evidence, there is a case for introducing market disciplines to DTT spectrum allocation and thereby, potentially, allowing the market to determine whether there are better uses for such valuable resources.

Question 16: Do you believe there is a material risk that the DTT platform will have insufficient spectrum to continue to deliver important benefits (including providing universal low cost access to PSB content) if the 600MHz band is not used for DTT when the after clearance of the 700 MHz band?

25. In light of the current utilisation of DTT channels, no. It is clear that many of the MUX channels are poorly utilised (in terms of audience). Consumer harm would be minimal if other uses were made of the spectrum consumed by these channels.

Question 17: Do you believe that using the 600 MHz band for DTT after clearing the 700 MHz band would reduce the risk that the DTT platform will not be able to continue to provide important citizen and consumer benefits?

26. Telefónica believes that, at this stage, re-use of 600MHz for DTT and release of 700MHz for mobile broadband is the most prudent approach. However, given the evidence of low usage of much of the DTT MUXs (in terms of consumers served and hence measurable consumer benefit), if there were not a substantial improvement in channel utilisation on DTT we believe the current large allocation of spectrum to DTT may become unsustainable in the long run.

27. There are more mobile devices than citizens in the UK, it is unclear why over 66m consumers of mobile services must forego access to highly valuable spectrum capacity so that 0.2% of households can view Channel 5+1, for example. This is not an efficient use of scarce resources.

⁶ Figures at April 2012.

Question 18: Do you agree that the future benefits for citizens and consumers of enabling the release of the 700 MHz band whilst maintaining the role of DTT are likely to outweigh the loss in benefits of the 600 MHz band not being able to be used for other services in the long term?

28. Yes.

Question 19: Have we identified correctly the possible short-term uses of the 600 MHz spectrum? Are there other short-term uses we should consider?

29. No comment.

Question 20: Which option(s) for releasing 600 MHz in the short term would maximise its value whilst supporting our proposed longer term objectives?

30. No view.

4. Wider impacts of changing the use of 700MHz and Ofcom's proposed approach

Question 21: Do you agree that the wider impacts of a future change of use of the 700MHz band could be managed to prevent them having a detrimental impact on consumers and the services operating in this band? Proposed approach for securing future benefits and next steps

31. Telefónica agrees with the set of steps outlined at §7.3 of the consultation. In particular, we are strongly of the view that Ofcom should put the DTT community on notice now that there will be no mitigation provided in the 700MHz band and, as such, DTT equipment manufacturers should no longer leave their devices wide open to OOB emissions.

Question 22: Do you agree that the approach set out in this consultation is likely to secure significant benefits for citizens and consumers over the long term?

32. We agree that Ofcom should seek the release of 700MHz, but on a timetable that allows for harmonisation in Europe and alignment with the APT band plan if at all possible.

Question 23: Have we correctly identified the main areas of future work that could follow this consultation process subject to its outcome?

33. Telefónica believes that Ofcom has identified the right work plan going forwards.