

**Question 1: which services are most likely to drive take up of DTT consumer reception equipment using new technologies? In particular, are HD services the most likely to do so?:**

The evidence - notably that from DSAT - indicates that HD is going to be attractive.

**Question 2: do you agree with Ofcom's assessment that it would be beneficial for the DTT platform to begin to upgrade to new technologies ? DVB-T2 and MPEG-4 - to make more efficient use of spectrum and to allow for the introduction of new services?:**

Yes, since this is the strategy that is most likely to meet the statutory objectives.

**Question 3: Ofcom is particularly interested in hearing from multiplex operators and programme providers as to whether they are interested in using DVB-T2 and / or MPEG-4, and whether Ofcom should consider permitting their use on DTT?:**

No comment.

**Question 4: do you agree that the earliest possible availability and adoption of the technologies is in the interests of consumers and citizens?:**

The scenario favoured is probably the least worst option. Changing to DVB-T2 (DSO2) later is going to disenfranchise consumers, notably those subject to DSO1 and those that have invested in display and recorder equipment with integrated DTT receivers. Unfortunately, Scenario 1 was not discussed sufficiently to show the difficulties in DSO2. Indeed, this problem is rather left to future consultations?

**Question 5: do you agree with Ofcom's view that DVB-T2 MPEG-4 reception equipment could be commercially available in time for DSO in Granada region in late 2009?:**

No, it is too optimistic. DSO has given us the evidence regards the difficulty in communicating issues to consumers and achieving action. Marketing will continue to be difficult. Liaison with Digital UK is going to be important to enable DSO1 and DSO2 to progress smoothly.

**Question 6: do you agree that some form of intervention is required in order for the DTT platform to commence an upgrade to new technologies without delay?:**

Yes.

**Question 7: Do you have any proposals for launching MPEG-4 services on a DTT multiplex using DVB-T in advance of the proposed 2009**

**timetable and if so can you provide details of how such a service would not undermine the proposed MPEG-4/DVB-T2 launch in 2009?:**

No comment.

**Question 8: do you agree with Ofcom's proposed approach for adding SD and HD versions of MPEG-4 and DVB-T2 profiles to the list of permitted standards for DTT in the spring, and that Ofcom's consent must be sought prior to adoption of these standards?:**

Yes. In addition there must be some statement on standards regards the performance of statistical multiplexing. This is particularly important since the services on the new multiplex will not be from the same suppliers and so moderation will be required from Ofcom. BBC Research shows that encoder technology has regularly been challenged by its mix of genres (see WHP040). There must be no risk of HD failure due to inappropriate mix of material in a statistical HD group, such as 3 sports channels and a nature documentary.

**Question 9: do you agree with Ofcom's proposal that Multiplex B should be cleared and upgraded to new technologies?:**

As in Q4, this is probably the only scenario that enables the introduction of DVB-T2 and facilitates the DSO2 programme. However, the danger of having so few channels on one multiplex, statistically coded, must be managed (see Q8).

**Question 10: do you agree with Ofcom's proposal that all multiplexes should be required to upgrade to 64QAM at DSO in order to make the most efficient use of spectrum (ie that the mode change should not merely be optional)?:**

Yes, provided that the robustness issues of 64QAM are properly addressed. This may involve raising the redundancy (for FEC) and, thus, reducing the capacity.

**Question 11: do you agree with our proposals for accommodating Five, S4C, TG4 and GDS on Multiplex 2?:**

No comment.

**Question 12: do you agree with our assessment that nine SD services can operate on Multiplex 2? If not, do you have an alternative proposal?:**

No comment.

**Question 13: do you agree with our proposals for the reorganisation process for the existing multiplex services set out in the central case scenario?:**

Yes, but see response to Q4.

**Question 14: do you agree with the principles / conditions that Ofcom proposes to use to evaluate counterproposals for the reorganisation process?:**

Yes.

**Question 15: Do you have an alternative proposal for the reorganisation process? If yes, please provide details.:**

Reluctantly, no.

**Question 16: do you agree with Ofcom's assessment of the options for allocating the upgraded capacity?:**

Yes.

**Question 17: do you agree with the proposal that HD broadcasting on the DTT platform should use the more efficient progressive format, rather than the interlaced format?:**

Yes. Suboptimal, legacy coding systems need to be phased out in order to meet statutory objectives.

**Question 18: do you agree with the proposal that Ofcom should not mandate the use of the capacity for any particular service type (SD or HD) but allow the broadcasters to make proposals?:**

Yes. However, the proposals must meet quality standards - notably regards suitability of groups of services to be statistically multiplexed. Because the performance of this process is difficult to objectively assess, operators must have fallback plans if the initial mixes prove unacceptable. Ofcom must ask for this and have powers to revise the licences accordingly should there be evidence of consumer dissatisfaction (see response to Q8).

Though radio services are not significant users of multiplex bandwidth, Ofcom should ensure that these (still) provide the best delivery quality for the respective genres suited to static-location listening. The DTT and DSAT delivery is the most likely to be used with high quality listening equipment and environments. This contrasts with DAB, whose purpose is to deliver adequate mobile reception with restricted data bandwidths.

**Question 19: do you agree with the proposal that the capacity should be allocated in three UK-wide blocks initially, rising to four blocks at DSO?:**

No comment.

**Question 20: do you agree with the proposed criteria for the comparative selection process?:**

Yes. However, the term 'high quality' must be well understood and must include objective measures of TECHNICAL quality. Note the concerns regards statistical multiplexing in responses to Q8, Q10 and Q18. The proposal regarding origination standards (7.98) is particularly welcome and Ofcom should have processes to monitor this.

**Question 21: do you have any comments on Ofcom's proposals for the upgraded multiplex?:**

No comment.

**Question 22: Do you agree with Ofcom's impact assessment?:**

Yes, notably the risks to DSO.

**Question 23: Do you agree with Ofcom's assessment of the potential benefits, risks and mitigations strategies relating to the impact of these proposals on the DSO programme?:**

Yes. Ofcom must work with Digital UK to mitigate the risks to DSO1 and assist with the DSO2 strategy, which this consultation essentially proposes.

**Additional comments:**

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