

DIGITAL UK RESPONSE TO 'SECOND OFCOM CONSULTATION ON COEXISTENCE OF NEW SERVICES IN THE 800MHz BAND WITH DTT'

19 April 2012

Introduction

Digital UK is the not for profit organisation established at the behest of Government to co-ordinate the Digital Switchover Programme (DSO) and lead communication with viewers. Subsequently it has been appointed to co-ordinate infrastructure planning and again to lead viewer communications in relation to the 800 MHz Clearance Programme.

As DSO enters its final stages, Digital UK is well placed to use its experience of DSO as the basis to comment upon the proposals for MitCo which will in some areas of its activity be required to fulfil a similar remit to Digital UK.

From that perspective, Digital UK believes that it is very important that the interests of the DTT viewer are uppermost in the minds of those designing the structure of MitCo and the Supervisory Board, in establishing KPIs, and in understanding the practical issues that will arise from the suggested mitigation techniques.

Generally, this response concentrates on the areas where Digital UK's practical experience of managing switchover is relevant to the proposals contained in the Consultation document. However some of our concerns also stem from the consumer impact of statements in the Consultation document regarding Government policy. For example:

- We believe that the concentration on "main sets" only will give rise to unnecessary inequalities and difficulties in implementation;
- Ignoring interference to set top aerials will also give rise to substantial difficulties in implementation;
- Communal dwellings, MDUs, will need special attention that the policy statements appear to ignore; and
- The problems associated with amplifiers – in lofts and on mastheads – also deserve more attention than is proposed if the programme is to proceed smoothly.

We also believe that effective consumer support is predicated on:

- Proactive mitigation of 4G interference to all potentially affected households; and
- A binding cap on platform changes to minimise the most severe effects of interference.

We address these issues in more detail in our answers to the questions below. In addition we have offered comment about the structure and constitution for MitCo and its relationship to the Supervisory Board.

Question 7.1: Do you agree that it is best to seek to establish MitCo in advance of the auction for later transferral to 800 MHz licensees?

Yes, Digital UK agrees that it would be best to establish both MitCo and the Supervisory Board in advance of the auction. Early establishment of MitCo and the Supervisory Board will enable Government and Ofcom to ensure that its constitution is prepared to maximise the effective delivery of MitCo obligations. Early establishment will also enable MitCo to be operational at the earliest moment.

The establishment of Digital UK at an early stage in the DSO process was a major benefit to that programme in that it allowed the organisation to input to Ofcom and Government thinking at the pre-Licence and planning stages thereby helping to ensure that the practical issues for the programme were properly considered. We believe that that early input prevented some mistakes that might otherwise have been made. Establishing MitCo and the Supervisory Board in a similar relative timeframe should provide the same benefits.

We believe that the Supervisory Board should be established first, and should direct the early establishment of MitCo. Our suggestions for establishment of the Supervisory Board are contained in our response to question 7.3 below. In [Annex 1](#) we suggest the possible sequencing and timing of establishment of both the Supervisory Board and MitCo.

Question 7.2: Do you agree with our initial views on MitCo's constitution and governance?

Our comments on this question are arranged into the following sections:

- i. Ownership and membership of MitCo;
- ii. MitCo budgets;
- iii. Funding network mitigations;
- iv. Defining MitCo's responsibilities and its 'promise to DTT viewers';
- v. Our suggestions on the communications that MitCo should be required to provide to DTT viewers and, importantly, trade;
- vi. Further comments we have on Ofcom's suggestion that MitCo should provide only one filter per household;
- vii. Our comments on Ofcom's proposals for MitCo's provision of filters for communal aerial systems;
- viii. Comments on the technical modelling of interference;
- ix. Comments on Ofcom's usability research;
- x. Our comments on Ofcom's proposals for MitCo to provide additional support to vulnerable consumers; and
- xi. Our recommendation that MitCo pilots its viewer and trade communications and support before 4G roll-out commences.

i. Ownership and Membership of MitCo

Digital UK notes that Government and Ofcom have decided that MitCo should be jointly owned and operated by the new 800 MHz licensees. We agree that it is appropriate for the MNOs to take responsibility for mitigation of interference and for consumer communications in pursuance of the “polluter pays” principle.

MitCo should have a Chair, independent of the mobile industry, and that person should also sit on the Supervisory Board.

Digital UK agrees that the Chief Executive of MitCo should attend meetings of the Supervisory Board.

A table of the possible ownership and membership of both MitCo and the Supervisory Board is attached at Annex 2.

ii. MitCo Budgets

Digital UK notes the funding arrangements proposed for MitCo. In the light of the Switchover Help Scheme’s total costs – from data management, operations, customer communications and the practical installation support scheme - we doubt that £20 million is an appropriate budget for the additional support of the Vulnerable Consumers. We further doubt that the overall £180 million budget will be adequate to fully fund the resolution of LTE interference issues in communal dwellings.

All budgets should be based on the 2.3 million homes affected – not just the 900,000 homes that Ofcom estimate are affected on DTT primary sets. Accounting for all DTT homes could increase some of Ofcom’s figures by 2.5 times. For example, Ofcom estimates that the cost of proactively providing filters to homes is £69 million (central case) – but we cannot tell if this is for provision to the 900,000 homes or all 2.3 million affected.

iii. Funding Network Mitigations

Digital UK notes that Ofcom and Government propose that 50% of any cost saving from this £180 million budget would be returned to the 800 MHz licensees. In order not to blunt the economical choice between network based or consumer impacting mitigating solutions, it is vital that the commissioning and costs of any network based mitigating solutions are met by MitCo, rather than by the individual relevant 800 MHz licensee.

If the cost of network mitigation were paid by individual 800 MHz licensees, it would appear that they would have the perverse incentive to minimise those appropriate network mitigations, as they would be keen not to take steps that might reduce their coverage and hence the potential number of paying 4G customers. Accordingly, individual 800 MHz licensees might be likely to place a value on those revenues, in addition to the cost of network based solutions when they weigh the balance of those costs against the costs of consumer based solutions. That would tilt the balance away from network based mitigation.

Furthermore - by virtue of the 50:50 gainshare and the equal division of MitCo underspend between the 800 MHz licensees – it would mean that if an individual 800 MHz licensee were incurring its own network mitigation costs, it would only chose that mitigation if it were to cost one sixth (assuming three 800 MHz licensees) of the MitCo saving from the alternative customer mitigation.

Only by network mitigation costs being incurred by MitCo can they be fairly assessed as to their economic viability re customer mitigation. And if MitCo is to pay for the network mitigation costs incurred by individual 800 MHz licensees, it is vital that MitCo only pays the actual network mitigation costs, and not some large profit mark up to the 800 MHz licensee.

iv. Defining MitCo's Responsibilities and its 'promise to DTT viewers'

The establishment of MitCo, either as a company limited by share capital or guarantee, will include the drafting of the company's **Memorandum and Articles of Association**. These legal documents will set out the general responsibilities of the company, and should be prepared by the Supervisory Board.

We suggest that there might further be a '**Code of Service**' or similar, which would set out the overarching principles of how MitCo will provide viewer mitigation and the service level it is seeking to achieve. The Code of Service should be MitCo's 'promise' to DTT viewers. It could also include MitCo's reporting commitment to the Supervisory Board. This would be analogous to the 'Code of Service Standards' that the Help Scheme has for switchover. The Code of Service should be drafted by – or at a minimum approved by – the Supervisory Board.

Digital UK suggests that the Memorandum and Articles should include, inter alia, details of each of MitCo's general responsibilities, which will include:

1. The **provision of information** in advance of new network switch-on to all households predicted to be affected.
2. That MitCo should **share all relevant information with Digital UK**, or any successor DTT platform management company or customer support operation. This information should include the MitCo analysis of households predicted to be affected, and the details of MitCo's messaging and timing of communication to those households.
3. The establishment of a MitCo **contact centre and an online portal** to provide consumers with clear information and advice and to arrange provision of DTT receiver filters and other support as appropriate.
4. The MitCo contact centre and website should be required to **co-ordinate with any ongoing DTT platform support operation** – such as the Digital UK advice call centre and the Digital UK postcode checker website, or their DTT platform support successors. This co-ordination will be necessary to deliver consistent consumer support messaging, interference resolution triage, and customer handover. MitCo should meet the relevant LTE interference related costs incurred by the DTT platform support operation.
5. The **provision of DTT receiver filters** and written guidance to DTT consumers. These to be provided proactively i.e. in advance of new network switch-on to those DTT consumers who are predicted to be affected by interference, and reactively to those consumers who do not receive a filter in advance but still experience interference.
6. The **co-ordination of network mitigation** activities carried out by the MNOs.
7. The **management of platform changes**, i.e. the provision of a broadly equivalent satellite or cable television service, where the correct installation of a receiver filter does not mitigate the interference problem. When a platform change is required, the general

aim should be to provide the consumer with an equivalent equipment level to that which was used by the consumer to receive the DTT service. To fulfil this obligation, Digital UK suggests that MitCo will need first to be diligent in investigating whether other measures short of a platform change might mitigate the inference problem, such as an improved aerial, more up-to-date DTT receiving equipment and ensuring a filter is correctly installed. Only if such measures fail to achieve their objective should MitCo arrange the platform change, which would then be implemented in a timely manner and at the expense of MitCo.

MitCo's Code of Service should provide further operational detail on:

1. The service level that MitCo is expected to provide to DTT viewers;
2. How it promises to provide that service to DTT viewers; and
3. Its reporting obligations to the Supervisory Board.

v. MitCo's Communications to Viewers and Trade

We believe that MitCo will need to be able to deliver the following eight activities in order to communicate to viewers and trade:

- 1. Identify addresses** that will be susceptible to interference in advance of the 4G base station launch, or launches, in that area. These homes should be alerted to the possibility of interference before it happens. In order to achieve that MitCo will need access to:

(a) the 4G network roll-out plans; which will in turn will need to be triangulated with

(b) the DTT network postcode database to ascertain which addresses are likely to both receive TV services from a DTT transmitter operating on at-risk frequencies and are in coverage of the interfering 4G base station. This is currently operated by Digital UK.

MitCo will require detailed and accurate 4G roll-out plans from the MNOs. These roll-out plans would need to include information on (a) the exact timing (down to the day and time of launch), (b) location, and (c) transmission characteristics of 4G base stations for each of the 4G operators.

We believe that co-ordination of 4G roll-out should be a requirement on the mobile operators as disjointed roll-out will risk multiple interference impacts in one locale (e.g. consumers experiencing interference on some channels when one operator launches; another set of channels when the second operator launches etc.). It would become extremely aggravating to consumers to be affected on multiple occasions, and would increase the costs of mitigation and make the task of viewer support almost impossible.

- 2. Communicate to viewers.** Once it has identified the homes susceptible to interference, MitCo will want to communicate to those viewers in advance of the interference event. To do this it will need consumer communications expertise, and a marketing function that can (if necessary) target above-the-line advertising to the area affected, and mail useful information to viewers.

We believe that this letter should carry the MNOs logos to explain the source of the potential interference and to give effect to the 'reputational incentive' on the MNOs.

3. **Diagnose viewers' reception problems.** When a TV viewer calls any TV broadcaster or mobile operator during the period of 4G roll-out they will first need to be triaged to diagnose the cause of their reception problem. The triage will be needed to rule out equipment set-up issues (including loose SCART plugs; wiring issues; poor aerials), DTT network engineering works, and normal re-tuning or manual re-tuning – and can ascertain that at their address they may be susceptible to 4G interference, with reference to the type of interference prediction model described in (1) above.
4. **Mail filters to viewers.** This will require a contact centre-based CRM system that links into a fulfilment system. In advance of 4G roll-out MitCo will need to procure filters, including have input on the design of filters to ensure they are simple to use and will minimise disruption to TV installations.
5. **Support viewers with the installation of filters.** Some viewers may struggle to install filters either because they have difficulty with the process (for example, the elderly, disabled and vulnerable), or for practical reasons (for example, because they have a flat-screen TV mounted on the wall that a filter will not fit behind). We provide further comments on Ofcom's proposals in relation to supporting vulnerable individuals in (x) below.
6. **Communicate to housing providers.** Ofcom expects that the majority of interference issues will occur in flats using communal aerial systems. We assume that the MitCo operation will fund changes required to communal aerial systems, even where the landlord might understandably use the services of a local supplier or company with which it has a maintenance contract for its aerial system(s). Further comments on Ofcom's proposals in relation to communal systems are in (vii) below.
7. **Communicate to trade.** Many viewers seek help from local electrical retailers or aerial installers. MitCo will also need to identify those members of the trade who may receive enquiries from the public, and communicate the 4G interference risk and mitigations to them in advance.
8. **Complaints handling.** Finally, MitCo will need to agree messaging and complaints escalation paths with the Supervisory Board to respond to DTT viewers who complain about disruption to their TV services.

vi. Comments on the proposal that MitCo should provide only one filter per household

We note that MitCo is required to provide only one filter per household. Where interference is experienced on one or more other sets in addition to the main set, consumers will need to obtain an additional filter (or filters) themselves. Digital UK understands that the Government's policy is for MitCo to fund the cost of a single filter to each affected household to be fitted to the "main set". Digital UK considers that restricting the free provision to a single filter per household is detrimental to audiences and might lead to adverse consumer reaction and comment. Accordingly, Digital UK suggests that Government and Ofcom might wish to reconsider that restriction.

We also note that MitCo will need to send filters to all 2.3 million homes which are predicted to suffer interference. MitCo will not know which of those homes might have satellite or cable rather than DTT – and most will have at least one DTT set.

Should it be decided not to amend the policy as suggested above, Digital UK welcomes the statement that Government has requested that there is a straightforward route for consumers to obtain additional filters where these are needed. Digital UK suggests that

MitCo is required to provide, on a non-exclusive basis, any such additional secondary filters as may be requested by viewers in a timely manner and at the unit cost per filter as paid by MitCo.

vii. Comments on proposals for provision of filters for communal aerial systems

Digital UK has concerns that the assertion that a single filter for communal aerial installations will resolve the interference problem will be difficult to sustain in practice. If there is any degree of LTE pick-up on the in-building distribution system after the filter, then individual filters may also be required. We know that, in London at least, this could be a problem because many communal aerial systems used to suffer from severe ghosting on analogue pictures caused by direct reception of signals from the Crystal Palace transmitter on the cabling, rather than by the roof aerial.

From the experience of DSO, we know that identifying homes in communal dwellings is an extremely difficult task, regardless of the quality of the address data. So it is not clear how MitCo will succeed where others have not. Digital UK resorted to mailing co-located addresses, and those with the word “flat” in the name, plus addresses with the suffix A, B, C etc as a proxy for communal dwellings. The Ordnance Survey data will help, but it still will not be possible to find them all.

We also know that identifying landlords of communal housing can be equally difficult. While social housing providers are listed (and Digital UK has compiled a database of social housing providers with whom we have had to communicate for switchover), there is no register of private landlords. For switchover Digital UK has endeavoured to contact private landlords through relevant associations, forums and conferences – but we have never been able to reach every private landlord.

viii. Comments on technical modelling of interference

In relation to technical modelling, where the supply of individuals able to implement and understand the inputs and outputs is limited, Digital UK wonders whether it would be more sensible to avoid duplication of the process by appointing an independent body with both MitCo and the Supervisory Board being supplied with the same results. This could remove a significant cost and avoid an unnecessary level of contention.

ix. Comments on Ofcom’s usability research

Digital UK also notes that the consumer research only tested the installation of a filter to a wall plate, and not installations where there is only a fly-lead. The scope for confusion about where exactly to install the filter is much greater. In our response to the previous consultation we did ask that Ofcom test the impact of mitigation techniques on some typical “rats nest” domestic installations, but we do not believe that has been done.

x. Comments on proposals to provide additional support to vulnerable consumers

MitCo will be required to provide additional support to vulnerable consumers. Those consumers will be eligible to receive installation support. Eligibility for this support will be based on the same criteria as is being used by the Switchover Help Scheme for digital switchover.

Digital UK presumes that in order to operate such a support scheme for vulnerable consumers, MitCo will need to receive up to date eligibility data from the Department of Work and Pensions and from Local Authorities. This would presumably require primary legislation to allow such data to be shared with MitCo. MitCo will need to undertake appropriate data protection.

Digital UK also suggests that MitCo should be required to work with Digital Outreach and local charities in order to seek to identify and support those vulnerable consumers who might otherwise get left behind.

xi. Recommendation that MitCo conduct a full consumer and trade pilot before 4G roll-out

Digital UK conducted a full end-to-end pilot of the switchover process at Whitehaven in Cumbria in 2007, a year before the main switchover programme commenced. We were able to test the technical process of switching from analogue to digital TV, as well as consumer, housing and trade communications, viewer support, and the assistance that was provided to the vulnerable. The success of the pilot built confidence in the process, but also provided invaluable lessons that were reflected in the design of the main switchover programme.

We strongly recommend that MitCo conducts a similar end-to-end pilot of viewer mitigation in the presence of 4G signals before the 4G roll-out programme commences. This should test all consumer, housing and trade communications and support in a real-life situation.

We suggest that MitCo should select a location that will provide a good test of some of the more challenging aspects of the programme, including communal dwellings, and a representation of vulnerable individuals.

Thorough research around the pilot will help to collect lessons, and inform the design of the main mitigation programme.

Question 7.3: Do you have any views on the proposed approach to the Supervisory Board?

Digital UK welcomes the proposal to establish a Supervisory Board to oversee and regulate the operation of MitCo, comprising members drawn from Government, Ofcom, broadcasters and multiplex operators, new 800 MHz licensees and consumer groups. We agree that the Supervisory Board should be established by Government.

Our response to this question is in the following sections:

- i. Supervisory Board flow of funds;
- ii. Supervisory Board functions;
- iii. Supervisory Board budgets;
- iv. The process for establishing the Supervisory Board; and
- v. The ownership and membership of the Supervisory Board.

i. Supervisory Board Flow of Funds

Digital UK notes that the Consultation Document suggests that MitCo will fund the operations of the Supervisory Board.

It is important that the Supervisory Board is wholly responsible for defining the scope of its activities and its necessary funding. It must be able to call down its necessary funding from MitCo, and the executive staff of the Supervisory Board, accountable to that Supervisory Board, must be able to deploy those funds without oversight or constraint from MitCo.

If the annual budgets for the Supervisory Board prove inadequate to enable the Board to deliver its important consumer protection tasks, there must be a robust and secure mechanism for the Supervisory Board to call down additional funds from MitCo.

We further suggest that the funding of the Supervisory Board's activities should not be under the control of MitCo - whose instincts might well be to constrain the activities of the Board. Therefore, consideration should be given to the Budget for the Supervisory Board being set by Government and Ofcom following negotiation with the Chair of the Board.

ii. Supervisory Board Functions

Ofcom's proposal speaks of a secretariat, a technical modelling function and an audit.

It will be important that the Supervisory Board has the powers to influence and direct the input activities of MitCo, and not simply be a passive body monitoring output KPIs.

We suggest that the Supervisory Board might undertake the following five functions:

- (1) **Engage and Consult** – One of the Supervisory Board's tasks should be to engage and consult with consumer representatives and other interested stakeholders (for example the manufacturer, retailer and aerial installer trades) to ensure that their views are reflected in the design of the viewer mitigation.
- (2) **Design Approval** – We suggest that the Supervisory Board should not simply 'accredit' element of MitCo's work but should specifically approve important elements of MitCo's

approach. The Supervisory Board might first approve MitCo's Code of Service. There will then be a lower level of operational design. The Switchover Help Scheme has a 'Design Authority' which is a group that decides lower level policy matters (for example, whether the Scheme should install more than one aerial for homes in Northern Ireland also receiving services from the Republic). The Supervisory Board might also need an 'Operational Design Committee', on which would sit representatives of MitCo and representatives of the Supervisory Board members. This committee would work through the detail of operational design in order to make recommendations to the Supervisory Board for approval.

- (3) **Monitoring** – We believe that the Supervisory Board must be empowered to do more than simply review output metric KPIs. It should have strong (i) research and (ii) audit functions. The Supervisory Board should be able to commission independent viewer research (quantitative surveys and qualitative reports from the regions) to monitor the impact of 4G interference. It should also be able to commission independent technical research, whereby a technical expert could test actual signal strengths and interference in the field.
- (4) **Reviews** – The Supervisory Board should routinely review MitCo's finances, and be able to conduct ad hoc reviews of any element of MitCo's activities.
- (5) **Complaints & Appeals** – The Supervisory Board should be the escalations path for complaints or appeals from viewers (and perhaps landlords of communal systems). We suggest there should be a 'Complaints and Appeals Committee' which would review complaints and appeals on a regular basis, and report outcomes up to the Supervisory Board.

iii. Supervisory Board Budgets

It is not clear from the Consultation Document how Ofcom has determined that the expected costs of running the Supervisory Board will be around £1.2 million per annum. The level of these costs will be determined by the resources made available to the Supervisory Board and by the range of its functions, for which we have provided some suggestions above, but which are yet to be agreed.

If, as would be the sensible intention, the Supervisory Board is to have access to fully independent advice and effective monitoring of MitCo performance, Digital UK does not believe that £1.2million per annum will be an adequate budget for the Board.

In order to properly fulfil the functions described above there will be a budgetary requirement for:

- Comprehensive empirical and research reports on both a national and localised basis.
- Technical field reports.
- Independent technical modelling.
- A standing staff with research, technical, financial, policy, operational design and administration expertise who will manage this work.

By way of example, Digital UK required a research budget (exclusive of staff costs and overheads) of £1.3 million in the year to 31 March 2010. This suggests to us that a total budget of £1.2 million for the activities scoped above will be far from sufficient.

Digital UK believes that there is little point in establishing a Supervisory Board unless it has teeth and has access to an appropriate level of resource.

vi. The Process for Establishing the Supervisory Board

We believe that the Supervisory Board will need to be formed in parallel to, and referred to within the constitution of MitCo. The roles, responsibilities, duties and powers of the Supervisory Board should be built into the Memorandum and Articles of MitCo. Those duties and powers should be changed only with the approval of the Supervisory Board.

We suggest that the very first step of the mitigation process should be to recruit the Chair of the Supervisory Board and to appoint the non-executive members of the Supervisory Board. The Chair will in turn design the job specification for, and recruit, the Director and confirm the staffing of the Supervisory Board.

The Chair and the Director of the Supervisory Board should then recruit the Chair and Chief Executive of MitCo.

In collaboration with the Supervisory Board, the MitCo Chair and Chief Executive will in turn design the MitCo constitution. They will then recruit the MitCo staff.

We propose a possible timing of events for the establishment of the Supervisory Board and then MitCo in Annex 1.

vii. The Ownership and Membership of the Supervisory Board

It is unclear from the consultation whether Ofcom envisages the Supervisory Board to be established as a legal entity separate from MitCo.

The Supervisory Board will appoint staff, incur expenditure and operate a bank account. Accordingly, Digital UK presumes that the Supervisory Board would be formed as a separate legal entity with its own Memorandum and Articles of Association.

Ofcom will need to consider the appropriate ownership of the Supervisory Board company, which we suggest should include at a minimum both Government and Ofcom, but could also include the Multiplex Operators in a non-funding capacity.

In addition, Digital UK suggests that, if at that time Digital UK has any ongoing responsibilities, it also should be represented on Supervisory Board so that it can bring its experiences of the DTT platform, and knowledge of Freeview equipment and consumers, to the Board. Digital UK also agrees that the Chair and Chief Executive of MitCo should attend meetings of the Supervisory Board.

We suggest the possible ownership and membership of the Supervisory Board and MitCo in Annex 2.

Question 7.4: We propose that the 50% gain share be split between 800 MHz licensees based on the volume of spectrum they hold in the 800 MHz band. Do you have any comments on this proposal?

MitCo will have very important consumer protection responsibilities. It is of paramount importance that the proper discharge of those responsibilities does not become subordinated to any instinct for the 800 MHz licensees, or Government, to seek undue cost savings at the expense of appropriate expenditure on consumer protection. The Supervisory Board should have a role in monitoring that balance.

Digital UK's overriding concern about the gain share scheme is that it overlooks one critical commercial ingredient - the value of 4G customers to the MNOs. Ofcom's analysis supposes that the only factors in determining whether network mitigation will be chosen are the alternative cost of providing filters and the product of the gain share. The average lifetime value of a mobile customer is approximately £160. 4G subscribers might be somewhat higher value than this. If the MNOs are seeking to convert even half their 82 million subscribers to 4G then that customer base has a combined lifetime value of more than £8 billion. As such Digital UK believes that there is every possibility that the opportunity cost of network mitigation in terms of reduced access to 4G subscribers will always be significantly greater than the cost of providing filters and/or the product of the gainshare and it will therefore always be in the interest of the MNOs to avoid network mitigation. That might not be in the interests of consumers.

As stated earlier, Digital UK believes that it is vital that the cost of any network mitigations should be met by MitCo, and not by the individual 800 MHz licensee who might need to implement that network mitigation. If those network mitigation costs were instead to be met by the licensees, it would seem that the operation of the proposed gain share system, and its 50:50 split, could lead the licensee – rather than MitCo - to seek to minimise its expenditure on network mitigation. That would be detrimental to the interests of the consumer and the DTT platform

With that important caveat, it is appropriate for there to be incentives towards the efficient operation of MitCo. The prospect of sharing underspend might contribute to efficiency, although Digital UK would note that no such incentives were established, or have been necessary, for the broadcasters to oversee the efficient financial management of the Digital Switchover Programme by both Digital UK and the Switchover Help Scheme, each of which has taken pride in the efficient and cost effective delivery of their obligations.

Digital UK is concerned that the proposed 50:50 gain share mechanism might lead to sub-optimal mitigation. Digital UK notes that the Government is planning to take on the potential liability as MitCo guarantor and funder, in the event that it were to become apparent that the LTE Interference issues cannot all be resolved within the £180 million budget agreed for MitCo. Digital UK considers that rather than a 50:50 gainshare mechanism, it might be appropriate for Government to charge MitCo a fixed premium for that financial guarantee policy – similar maybe to the premium payment which was implemented by Government in its support of the UK banking system.

It seems reasonable that the share of any underspend that would become payable to the 800 MHz licensees should be split in relation to their individual percentage contribution of the £180 million funding to MitCo. We presume that their funding contribution will be in the same proportion as the licensees' volume of spectrum awarded.

Question 7.5: Are the information parameters defined above and in Annex 5 sufficient to allow MitCo to accurately and reliably forecast the scale and scope of households affected by DTT interference?

Digital UK welcomes the recognition that a comprehensive set of information is required to model the impact of LTE base stations on DTT reception and believes that the information parameters defined in the Consultation Document go a long way towards meeting that requirement. However, we have a number of detailed comments as follows:

A5.3 We consider the inclusion of accurate out-of-band emission mask data to be extremely important and would encourage Ofcom to take the necessary steps to make this data available. If this is not possible, then a process must be put in place to allow Ofcom to approve the default masks used in the modelling.

A5.4 We note that the requirement for comprehensive address data will allow the number of premises within a pixel to be derived. We would point out that television reception in both domestic and commercial premises needs to be protected so the analysis should not be restricted to domestic premises only.

Note 82 We believe that DTT clutter data will not be suitable for use in LTE impact calculations because it is intended for use in a relatively long distance propagation model. The short range nature of the LTE to DTT propagation path (effectively line of sight) means that clutter data with significantly more accurate positional resolution should be used. Detailed clutter data is therefore required for the vicinity of each LTE base station.

A5.5 The Ordnance Survey AddressBase range of products is likely to be a better source of data than Royal Mail PAF. AddressBase Plus includes some information about MDUs, for example, and other data that should prove useful. AddressBase Premium contains the National Land and Property Gazetteer which include daily updates from Local authorities and as such is the most up-to-date source of address data.

A5.6 We would point out that filters need to be provided regardless of the actual performance of DTT receivers so the market share information should be used solely for scaling the likelihood of interference arising and not for gating whether mitigation should be offered.

The propagation model for LTE to DTT also needs to include an aggregation element to address the cumulative impact of multiple transmissions and multiple base stations on DTT reception at a particular location.

Question 7.6: Do you agree the KPIs related to MitCo's activities are appropriate and robust?

Digital UK is concerned that Ofcom's proposals are overly reliant on output-based KPI metrics, and do not give the Supervisory Board enough influence and input into how MitCo operates. For this reason we believe that the Supervisory Board's functions should include not just monitoring but also approval over both the final version of the KPIs and the design of the mitigation (see our response to question 7.2).

Digital UK also shares the concerns of the broadcasters that the KPIs are not sufficiently robust to ensure that MitCo will be appropriately disciplined in its approach to ensuring that affected viewers are properly and effectively assisted.

1. **Information Supply:** Digital UK's experience with DSO suggests that there needs to be more than one level of information given to affected households. If information is sent to affected households "at least 1 calendar month before planned base station activity" and without any follow up, Digital UK considers that it would be unlikely that households would be properly prepared. This KPI should be extended to include additional communication with all households which are forecast to be affected within 24 hours of base station activation.
2. **Proactive Filter Supply:** the proposal that MitCo only needs to send filters in advance to 90% of potentially affected households ignores the impact on viewers disadvantaged by that approach. In order to protect the interests of viewers, the KPI should be reworded to ensure that 100% of households forecast to be affected are sent filters proactively. This may entail wastage in terms of filters supplied unnecessarily but under the proposed approach who will decide which 10% of the households forecast to be affected should be left at risk? The KPI should address the possible variation between households actually affected by interference and those forecast to be affected as an incentive for MitCo to improve its forecasting.
3. **Reactive Filter Supply:** the definition of "customer requirement confirmation" is unclear. Will this KPI be satisfied by MitCo engaging in a process of ill defined duration in order to confirm that a household is entitled to a filter before filters are reactively supplied?
4. **Vulnerable Consumer Support:** Digital UK welcomes the proposed policy that vulnerable consumers should receive support for filter delivery and installation. We note that the eligibility criteria would be similar to that agreed for the Switchover Help Scheme. Digital UK presumes that MitCo will need to access the relevant eligibility data from the Department of Work and Pensions, and we presume that legislation might be required for the authorisation of the release of that data to MitCo. It would be necessary for MitCo to have robust data handling processes. We recommend also that MitCo should be required to commission an organisation such as Digital Outreach to help identify vulnerable viewers and support them in local communities. Digital UK doubts that the full costs of administering and delivering this Vulnerable Consumer Support scheme have been fully factored into the £180 million budget.
5. **Platform Change Supply:** this KPI needs to include a permissible duration for "confirmation of a platform change requirement by the Contact Centre".
6. **Consumer Complaints:** Digital UK does not believe that measurement of complaints is an appropriate primary KPI. The appropriate measure is whether the relevant service has been provided on time not whether there have been complaints about lack of service. Rather the KPI should be about the standards for dealing with complaints. But

as well as monitoring to ensure that MitCo is dealing with complaints effectively, it will be important for the Supervisory Board to conduct on the ground research to establish the level of interference, mitigation, and consumer response. Digital UK considers that much of the current proposal is based on consumers notifying MitCo if they have a problem. There needs to be an objective assessment of whether such problems exist and to what extent. As we know, not everyone will complain when they have a problem. The Supervisory Board will need to measure the full iceberg – not just the tip.

Question 7.7: Do you agree that the KPI for incentivising and measuring the proactive supply of DTT receiver filters to households affected by interference should be based on an assessment of the outcomes rather than the activities performed by MitCo?

No.

In the best interests of viewers, this KPI should be based upon MitCo successfully providing filters to all households forecast to be affected by interference.

The Supervisory Board should establish the KPIs during the pre-auction phase. The Supervisory Board should review and possibly revise those KPIs on an annual basis.

Question 7.8: Do you agree with the approach we have outlined for incentivising KPI achievement and managing cases of non-compliance with KPIs?

Digital UK believes that the apparent lack of a strong backstop power for Ofcom removes a strong incentive for MitCo to meet the KPIs. Although there is a proposed obligation to comply with directions given by Ofcom set out in paragraph 8.16, the fact that Ofcom envisages only using such power “exceptionally” introduces doubt about how MitCo will in practice be incentivised to meet the KPIs.

Digital UK considers that it would be more effective if the menu of actions listed in 8.16 were not considered to be ‘exceptional’ but rather that they should be used as a day to day means of managing MitCo’s performance in achieving acceptable mitigation of interference into DTT.

Question 7.9: Do you agree with our proposed approach for managing MitCo’s performance against other elements of service delivery that are not captured by KPIs?

One of the key elements included in the list of “Additional Performance management areas” in Table 7.4 is the Contact Centre. Digital UK’s experience suggests that, as the interface with viewers, it is critical that the performance of the Contact Centre is measured against agreed targets. Ideally, this should be on a daily basis, as Digital UK has managed its relationship with its call centre contractor. At minimum, the monitoring must be on a weekly basis. Digital UK considers that the proposal for quarterly audit by the Supervisory Board would appear to be too infrequent to be adequate.

In relation to reporting, it is unclear why the proposed licence requirement on 800 MHz licences allows for “reported performance to have no more than a 5% negative variance from actual performance”. Digital UK does not understand why reported performance should vary from actual performance. If there is going to be a variance between actual and reported

performance and Mitco is providing the reported performance, how is the Supervisory Board supposed to measure actual performance?

Question 7.10: Do you think a hard or soft limit should be set in relation to platform changes? Do you have any other comments in relation to the platform change cap?

MitCo is required to provide installation support to customers who require a platform change. Digital UK welcomes Ofcom's proposal to have a cap on the number of platform changes.

Digital UK notes Ofcom's estimate in Section 6 that in the absence of any network-based mitigation, there might be approximately 38,000 households for whom DTT filtering might fail to restore DTT services and who therefore would still experience interference. Digital UK notes Ofcom's analysis that the number requiring a platform change might be fewer than 10,000 homes if consumers are offered DTT equipment that is less susceptible to interference, and that the number would further reduce by the implementation of networkbased mitigation solutions. In order to minimise the number of platform changes, Digital UK believes that MitCo should deploy each of these tools: filters; DTT equipment which is less susceptible to interference; and network mitigation.

At DSO most viewers have a choice of digital platform, and many opt for DTT. Following DSO many viewers will go through the Clearance programme. After that the new LTE services will launch. And after that some of our continental neighbours might change their networks and create yet more interference for the some DTT viewers. This all carries the risk of undermining confidence in the DTT platform. Digital UK and its shareholders have invested heavily in maintaining the reputation of the DTT platform during the Switchover and Clearance changes. It is important that MitCo's activities do not undermine that good work by introducing any doubt about the reliability of the DTT platform.

Digital UK therefore believes that there should be a challenging limit set on platform changes and that this should be set at a low level. It should be set at a low level because there will be a difficulty of accurately capturing the number of platform changes caused by LTE Interference. MitCo will be aware of the number of platform changes that it has been asked to fund, but that might be a small percentage of platform changes which viewers might have arranged themselves, as a result of unreliable DTT signals following the launch of LTE services in their areas.

It is not clear from the consultation as to how a cap on the number of homes who may change platforms would be monitored and enforced. Based on the Switchover experience, and the take up of the Switchover Help Scheme, Digital UK considers that potentially many consumers who experience LTE interference would be likely to "self-help", and implement alternative platform arrangements without calling upon assistance from MitCo.

Furthermore, the competing alternative platform providers may implement their own communications activities in LTE Interference areas, and they may offer free or low-cost transfers to their platforms.

Digital UK also wonders whether the 800 MHz licensees themselves might decide to individually fund platform transfers in excess of the 10,000 home cap which would be applied just to MitCo funded transfers – in order to circumvent that cap and to maximise the LTE power levels, coverage and potential number of paying 4G customers.

These potential avoidance routes around the cap need careful consideration so that appropriate safeguards might be included in the MitCo constitution and the Ofcom licence conditions.

Question 7.11: Do you agree with the requirements we propose to place on licensees to address interference after MitCo closes?

Digital UK is concerned that there should be proper measures in place to manage interference issues arising after the closure of MitCo. Ofcom recognises that interference may not end completely with MitCo's closure. Although the Consultation Document proposes some information requirements for 800 MHz licences, it is unclear what the policy will be towards viewers affected by interference beyond the life of MitCo. Who will provide advice? Who will pay for remedial action?

If the answer is that all viewer support ceases with the closure of MitCo regardless of the subsequent introduction of LTE interference then that needs to be made absolutely clear to viewers by the MNOs and Government so viewers are absolutely clear of the limitations of the interference support policy determined by government and Ofcom, and that the DTT broadcasters are not left picking up the pieces arising from post MitCo interferences.

We further suggest that there should be safeguards built into the MNOs' Licences to prevent the MNOs from adding new base stations, or increasing the power of existing base stations, once MitCo has closed. Without such safeguards there might be risk of the MNOs creating new and unsupported interferences.

Question 8.1: Do you have any views on the nature or detail of the requirements we propose may be necessary as set out in this Section?

Digital UK believes that the requirements on 800 MHz licensees should be strengthened to reflect the above comments and that, as far as possible, those requirements should be expressed as licence conditions so that there is no doubt about their level of enforceability.

ANNEX 1: Suggested Timing of Establishment of Supervisory Board and MitCo

Note that we regard this timetable as ambitious, and recruitment of key posts may well take longer than indicated, but that it nonetheless does not allow for the start of 4G roll-out before 2014.

Date	Activity
July 2012	Government and Ofcom recruit Chair of Supervisory Board & appoint non-executive members of Supervisory Board
August 2012	Chair of Supervisory Board to recruit the Director of the Supervisory Board
September 2012	Chair and Director of the Supervisory Board design the Supervisory Board company Memorandum and Articles
September 2012	Chair and Director of the Supervisory Board define the staff requirements for the Supervisory Board
October 2012	Supervisory Board defines MitCo KPIs
October-December 2012	Director of the Supervisory Board recruits Supervisory Board staff
October-December 2012	Chair and Director of the Supervisory Board to recruit Chair and Chief Executive of MitCo
January 2012	MitCo Chair and Chief Executive design the MitCo Memorandum and Articles and Code of Service (for approval by the Supervisory Board)
January 2013	MitCo Chair and Chief Executive define the staff requirements for MitCo
February-April 2013	MitCo Chief Executive recruits MitCo staff
By end April 2013	MitCo established and staffed
May-June 2013	MitCo defines its processes (for example, data protection processes)
July 2013	MitCo begins to take in roll-out data from the MNOs and determine the locations of interference with DTT
August 2013	MitCo agrees mitigation for pilot site (at least 3 months in advance of predicted interference)
October 2013	MitCo implements proactive mitigations for pilot site (at least one month in advance of predicted interference)
November / December 2013	Mitigation pilot takes place
January 2014 onwards	4G roll-out commences

ANNEX 2: Suggested Ownership and Membership of the Supervisory Board and MitCo

	Supervisory Board	MitCo
Company Ownership	Government (DCMS) Ofcom	The new 800 MHz Licensees
Chair	Independent Chair	Independent Chair
Voting Members	Government (DCMS)* Ofcom* DTT Multiplex Operators x3 Consumer Group representative MNO Licensees x3	MNO Licensees x3
Attendees	Supervisory Board Director MitCo Chair MitCo Chief Executive Digital UK	DTT Multiplex Operators?

* We assume that Government and Ofcom must be voting members if they are to own the Supervisory Board company.