

**COMP/M.5650 – ORANGE PCS LIMITED / T-MOBILE UK LIMITED -  
request pursuant to Article 9(2) of Council Regulation (EU) 139/2004**

**Please note that the square brackets indicate figures or text which have been deleted or replaced in ranges at the request of the parties or third parties for reasons of commercial confidentiality.**

**INTRODUCTION**

1. This submission is provided by the United Kingdom's ('UK's') Office of Fair Trading ('OFT') to the European Commission (the Commission) in support of the OFT's request made under Article 9(2) of Council Regulation 139/2004 ('EUMR') by letter of 2 February 2010, that the Commission partially refer the Notified Concentration to the UK so that the OFT can examine the UK aspects of the above transaction under the UK merger control provisions in the Enterprise Act 2002.<sup>1</sup>

**TIMING**

2. The OFT received a copy of the parties' Form CO on 13 January 2010. The 15 working day deadline in which to make a request under Article 9 EUMR is 3 February 2010.

**THE UNDERTAKINGS CONCERNED**

**France Telecom**

3. France Télécom SA ('FT') is an electronic communications operator that provides a large range of electronic communications services to all customer segments, including public fixed-line voice, leased lines and data transmission services, telecommunications equipment sales and rentals, television broadcasting and

---

<sup>1</sup> The OFT would have jurisdiction under the Enterprise Act 2002 to examine the Notified Concentration were it to be referred back under Article 9 EUMR as both Orange and T-Mobile's respective turnovers in the UK exceed £70 million.

information services. FT also provides, through its wholly-owned subsidiary Orange S.A, a whole range of mobile telecommunications services (including 3G services) in several European countries including France, Austria, the UK, Luxembourg, Poland, Spain, Romania and Slovakia. FT has also mobile operations in Belgium and provides various fixed voice telecommunications services in Belgium, France, Poland and Spain.

4. Orange Personal Communications Services Ltd and Orange Home UK Ltd (together, ('**Orange**')) are each 100 per cent subsidiaries of FT. Orange is the 3rd largest mobile network operator ('MNO') in the UK<sup>2</sup> providing services to 16 million subscribers. Orange primarily provides mobile telephony services but also related services such as mobile broadband services. It also provides to a lesser extent fixed broadband internet access services.

#### **Deutsche Telekom**

5. Deutsche Telekom AG ('**DT**') is headquartered in Bonn, Germany and is listed on all of the German Stock exchanges as well as the Tokyo and New York Stock Exchanges. The Federal Republic of Germany continues to hold a minority stake in DT of 14.8 per cent. A further 16.9 per cent is held by the state owned bank KfW. DT is an integrated telecommunications and information technology service provider and with activities worldwide in 50 countries. DT offers three customer brands under the global umbrella brand 'T', including: T-Home for all products and services at home; T-Mobile for products and service whilst on the move; and T-Systems offering medium to large-sized customers information and communications technology solutions around the world.
6. T-Mobile (UK) Ltd ('**T-Mobile**') is a wholly owned subsidiary of DT. T-Mobile is the 4th largest mobile network operator in the UK,<sup>3</sup> headquartered in Hatfield, providing its services to over 16 million customers. T-Mobile primarily provides mobile telephony services.

---

<sup>2</sup> On the basis of both revenue and subscriptions.

<sup>3</sup> On the basis of both revenue and subscriptions.

## EXECUTIVE SUMMARY

7. The OFT's preliminary assessment is that the Notified Concentration threatens to affect competition in two main ways.
8. The first and more significant of the OFT's concerns, relates to the ability of Hutchison 3G (H3G) to compete going forward given the infrastructure sharing agreement it is currently in with T-Mobile. The OFT considers that any weakening/elimination of H3G would effectively result in a reduction of vertically integrated competitors from five to three and cause significant detriment to competition in mobile retail telephony. Based on the information available, the OFT also has some related, residual concerns as to the competitiveness of the retail market post-merger relating to the constraint Mobile Virtual Network Operators (MVNOs) exert on MNOs and any potential for this constraint to be weakened post-merger.
9. Secondly, the OFT is concerned that the Notified Concentration might result in just one MNO offering full speed national LTE, thereby resulting in a significant impediment to effective competition in mobile broadband and higher prices for consumers.
10. The OFT notes, however, that these are preliminary concerns based on the evidence made available to it at present, and is aware that the Commission is better placed at this point in time (having conducted its market investigation) to assess whether the concerns highlighted here threaten to significantly impede effective competition in the mobile telephony markets in the UK.
11. The OFT notes that there are a number of uncertainties surrounding the facts of this case. Nevertheless, it considers that, given that the theories of harm referred to above are plausible, and that the potential magnitude of harm to UK consumers is great, the Notified Concentration could threaten to significantly impede effective competition in the retail and wholesale mobile telecommunications markets in the UK. In light of this, and the UK-centric effect of the Notified Concentration, the OFT would

request that the Notified Concentration is referred to the OFT for further scrutiny.

## **APPLICATION OF ARTICLE 9 EUMR**

12. The OFT is making this application pursuant to Article 9(2) of the EUMR. Specifically, the OFT believes that the Notified Concentration satisfies the criteria of Article 9(2)(a) of the EUMR ('Article 9(2)(a)') as threatening to affect significantly competition within the UK.
13. According to the Commission's Notice on case referral (the 'Notice')<sup>4</sup> in making a request Member States should take account of the principle of subsidiarity, and, in particular, which is the more appropriate authority for carrying out the investigation, the benefits inherent in a 'one-stop shop' system and the importance of legal certainty with regard to jurisdiction.<sup>5</sup>
14. The OFT has taken due regard of these factors and, for the reasons described below, considers that it is appropriate for the UK aspects of the case to be referred to the UK's OFT for investigation.

### **More appropriate authority**

15. According to paragraph 9 of the Notice, in deciding the more appropriate authority to deal with a case, regard should be had to the specific characteristics of the case as well as the tools and expertise available to the authority. Particular regard should also be had to the likely locus of any impact on competition resulting from the merger.
16. Importantly, the OFT points to the fact that the effects of the proposed concentration are UK-centric - the undertakings contributed to the JV are almost exclusively active in the UK.<sup>6</sup> As a result, any possible competition concerns will be felt exclusively by consumers in the UK and therefore the OFT considers that the principle of subsidiarity supports a referral to the UK.

---

<sup>4</sup> 2005/C 56/02

<sup>5</sup> Paragraph 8.

<sup>6</sup> With the exception of some internationally affected markets that are discussed below.

17. In addition, the UK authorities have built up a significant body of experience and expertise in this sector over a long period of time. In particular, the OFT has reviewed several mergers (for example, Vodafone/Project Telecom (2003) and O2/The Link (2006)) and the Competition Commission has conducted a number of regulatory reviews (for example, mobile call termination), which have involved detailed consideration of every aspect of competition in the UK mobile market. In addition, the OFT has examined the competitive effects (present and future) of spectrum allocation issues in the context of mergers, including in consultation with other regulators or public bodies.<sup>7</sup>
18. The OFT also considers that the following factors are specifically relevant in this case:
- As will be discussed below, the merger raises complex issues concerning the allocation of spectrum. The developments in respect of spectrum allocation in the UK<sup>8</sup> are on-going and the OFT believes that the UK competition authorities are best placed to liaise with the Department for Business, Innovation and Skills (BIS) in respect of these. As the Commission will be aware, BIS published a consultation document on 16 October 2009 setting out proposals regarding spectrum liberalisation and auctioning of further spectrum over the next few years. This potentially has significant implications for the structure of the market going forward and, in particular, on the future adoption of LTE technology.<sup>9</sup> The proposals clearly state, however, that the competitive impact of the merger between T-Mobile and Orange is something to be addressed by the

---

<sup>7</sup> ME/1548/03 *Anticipated acquisition by Capital Radio Plc of the remaining shares of Tainside Limited*, ME/2982/07 *Completed acquisition by Macquarie UK Broadcast Ventures Limited of National Grid Telecoms Investment Limited*, *Lattice Telecommunications Asset Development Company Limited and National Grid Wireless No.2 Limited* and ME/2811/06 *Acquisition by British Sky Broadcasting Group plc of a 17.9 per cent stake in ITV plc*

<sup>8</sup> These are taking place within the context of the Digital Britain project that was launched by the British Government in October 2008 which set out a number of initiatives with the aim of delivering the benefits of the digital economy to British consumers through a number of initiatives.

<sup>9</sup> Long Term Evolution ('LTE'): part of the development of 4G mobile systems that started with 2G and 3G networks. Aims to achieve an upgraded version of 3G services having up to 100 Mbps downlink speeds and 50 Mbps uplink speeds.

competition authorities. Should the Notified Concentration be found to have an adverse effect on competition in the future because of the merged entity's large 1800 MHz spectrum holdings, it is possible that a spectrum divestment remedy will be required. However, this will need to tie into the Government's Digital Britain process and may affect BIS' proposals. As the merger control and Digital Britain processes are taking place simultaneously, it will therefore be important that these are appropriately co-ordinated.

- The OFT considers that the current situation regarding spectrum is analogous to instances where a national authority is conducting a non-merger investigation into a particular market or issue, and where the Commission was minded to grant a referral in respect of a merger that affected the same market. This is because in making any assessment on the spectrum issue going forward, the OFT will make an assessment of the appropriate counterfactual scenario(s) against which the merger should be tested so that it can assess the competitive effect of the Notified Concentration on spectrum holdings. This will require close co-ordination with Ofcom and BIS.

### **One-stop shop**

19. The OFT does not consider that there are material 'one-stop shop' benefits in this case since the only non-UK aspects of the case relate to international roaming agreements (in relation to which the OFT believes that the Notified Concentration is unlikely to present competition concerns).

### **Legal certainty**

20. Finally, on legal certainty, the OFT considers that a referral to the UK would not have been beyond the parties' contemplation in this case. The OFT has been in contact with the parties throughout the pre-notification period and had, from a very early stage, informed the parties of the possibility of an Article 9 request in this case. Further, in their Form CO the parties acknowledge the UK-centric characteristics of this case and, in all likelihood, would have been

aware that creating a change to the structure of the UK market of the scale of the proposed concentration would engender adverse third party comment and that there would have been a high risk of OFT would requesting this case back from the Commission. Given these factors, the OFT does not consider that legal certainty would be significantly distorted by a referral in this instance.

### **Article 9(2)(a) requirements**

21. With respect to a request being made pursuant to Article 9(2)(a), the OFT is required to show that the Notified Concentration 'threatens to affect significantly competition in a market within the UK, which presents all the characteristics of a distinct market'.
22. By way of elucidation, the Commission's Notice states that in order for the Commission to refer the case to the OFT, the OFT must demonstrate that, based on a preliminary analysis, there is a real risk that the transaction may have a significant adverse impact on competition and thus deserves close scrutiny. In addition, the OFT must show that the geographic markets affected by the transaction are at most national in scope.
23. The following paragraphs set out immediately below the views of the parties and third parties on the question of jurisdiction before giving the reasons why the OFT believes that the requirements of Article 9(2)(a) are indeed met.

### **VIEWS OF THE PARTIES**

24. The parties submit that the conditions to request a referral pursuant to Article 9(2) are not met. In respect of Article 9(2)(a), the parties submit that the proposed transaction is not likely to significantly affect competition in any of the markets concerned in the UK.<sup>10</sup>
25. The parties also submit that this is not an appropriate case for the Commission to exercise its discretion to refer the case to the UK authorities for the following reasons:

---

<sup>10</sup> The parties also note that there is no case for a referral request under Article 9(2)(b). However, as the OFT is making the request in relation to Article 9(2)(a) only it is not proposing to further expand on this point.

- the Commission has particular expertise in telecommunications
  - due to the extensive pre-notification phase, the Commission has gained intimate knowledge of the particular markets affected by the Notified Concentration
  - given the working arrangements which have been put in place between the Commission and the OFT and Ofcom, the parties see no need for the case to be formally referred to the UK
  - the Notified Concentration results in a number of affected markets outside the UK which relate to the UK markets and a competitive assessment of these markets may not be made without taking into account the situation of competition prevailing on the UK markets
  - a referral will involve additional delay that will have a negative impact on UK consumers, and
  - a delay in the approval process would be beneficial to the merged entity's competitors.
26. The OFT refers the Commission to paragraphs 15 to 20 of this request which set out why the OFT considers that the Commission should exercise its discretion to refer the Notified Concentration to the UK authorities.
27. In addition, in response to the parties' specific points, the OFT notes that it has been involved from this case at the outset and that it has fully engaged with the Commission and Ofcom in respect of the competitive impact of the Notified Concentration in the UK. It therefore considers that it is also intimately acquainted with the facts of the case at this point.
28. In addition, given the issues at stake, the long-term nature of investments in this industry and the potentially very serious implications for consumers in the UK, the OFT does not consider that the parties' arguments regarding the delay in the approval

process should constitute a tipping factor in the Commission's decision to refer this case to the UK authorities.

29. The OFT has discussed this submission with Ofcom, given its specialist expertise as the national regulatory authority for communications matters in the UK. Ofcom has confirmed its agreement with the nature and substance of the potential competition issues raised in this paper.

#### **VIEWS OF THIRD PARTIES**

30. The OFT issued an invitation to comment ('ITC') on the possibility of submitting a request to the Commission under Article 9 on 14 January 2010. It has received complaints from [ ], all [ ] of which have submitted that the case should be referred to the OFT for review due to the UK-centric nature of the transaction.
31. In addition to the parties, the OFT has received in total [ ] responses to its ITC. [ ] raised concerns regarding the wholesale market and [ ] also raised concerns. With the exception of [ ] other respondents expressed the view that the UK authorities as best placed to review the Notified Concentration.

#### **NATIONAL SCOPE OF GEOGRAPHIC MARKETS AFFECTED BY THE TRANSACTION**

32. According to the parties' Form CO, horizontal overlaps arise in the following markets in the UK:
- the market(s) for retail mobile communication services in the UK<sup>11</sup>
  - the market for wholesale access and call origination services on mobile networks in the UK, and

---

<sup>11</sup> While the OFT agrees that markets have been defined this way in the past, it considers that it is possible that certain services relates to retail mobile telecommunication (for example, provision of mobile broadband through dongles) may now be defined as separate markets from the demand side (or may, indeed, form part of the fixed broadband market).

- the market for wholesale international roaming services in the UK.
33. In the UK, the parties have indicated that the Notified Concentration will lead to the following vertically affected markets:
- the market for the provision of retail mobile communications services<sup>12</sup>
  - the wholesale market for international roaming services, and
  - the wholesale market for call termination services on the JV's mobile network.
34. There are a number of other markets outside the UK that, as a result of Orange and/or FT and/or T-Mobile and/or DT being present, should be deemed to be vertically affected within the meaning of the Form CO.<sup>13</sup>
35. The OFT does not have jurisdiction to examine the effects of the Notified Concentration in these markets and would therefore only be requesting a referral of the UK aspects of the Notified Concentration.

---

<sup>12</sup> This refers to any effect on the UK retail market from wholesale international roaming in other countries where Orange and T-Mobile are present.

<sup>13</sup> For completeness, these are: (i) the markets for the provision of retail mobile communications services in Belgium, France, Poland, Slovakia, Romania and Spain for Orange as well as Austria, the Netherlands, Germany, the Czech Republic, Poland, Hungary, Greece, Bulgaria, Romania and Slovakia for T-Mobile; (ii) the wholesale markets for international roaming services in Belgium, France, Poland, Slovakia, Romania and Spain for Orange as well as Austria, the Netherlands, Germany, the Czech Republic, Poland, Hungary, Greece, Bulgaria, Romania and Slovakia for T-Mobile; (iii) the Austrian, Belgian, French, Polish, Slovak, Spanish, Luxemburg and Romanian markets for call termination services on Orange's mobile networks as well as the Austrian, German, Dutch, Czech, Polish, Hungarian, Greek, Bulgarian, Romanian and Slovakian markets for call termination services on T-Mobile's mobile networks; (iv) the Belgian, French, Polish and Spanish markets for call termination services on FT's fixed networks and the German, Slovak, Romanian, Hungarian and Greek markets for call termination services on DT's fixed network; and (v) the retail markets for international call services from FT's fixed network in Belgium, France, Spain and Poland and from DT's fixed network in Germany, Slovakia, Romania, Hungary and Greece.

36. In particular, the OFT would request that the following markets would be referred for review in the UK:
- (a) market for retail mobile communication in the UK
  - (b) market for wholesale access and call origination services on mobile networks in the UK, and
  - (c) wholesale call termination on the JV's mobile network to the extent that this relates to retail mobile communication in the UK.
37. It is the OFT's view that the UK aspects of the Notified Concentration are sufficiently distinct to be considered separately by the OFT.<sup>14</sup>
38. **The second requirement of the Article 9(2)(a) test is therefore met, since the Notified Concentration affects geographical markets that are national in scope.**

## **NOTIFIED CONCENTRATION THREATENS TO AFFECT SIGNIFICANTLY COMPETITION**

### HORIZONTAL ISSUES

#### **Retail market for the provision of mobile communications in the UK**

##### Introduction

39. The parties submit that the UK mobile market is one of the most competitive mobile markets in Europe and will remain so following the establishment of the JV, as there will still be three other MNOs, namely O2, Vodafone and H3G. The parties submit that since most other countries have three MNOs, this would still constitute a market structure which is exceptional in Europe and that the remaining four MNOs as well as the large number of MVNOs and resellers will continue to constitute effective competitive constraints for the new entity.

---

<sup>14</sup> The Form CO states that these markets are national and this is consistent with previous Commission decisional practice.

40. In addition, the parties also submit that: (a) neither T-Mobile nor Orange have been a driving force for competition on the UK mobile market; and (b) T-Mobile and Orange have not been particularly close competitors, which is demonstrated by the results of a switching analysis and the fact that both have a different subscriber focus.

#### Market share data

41. The OFT notes that following the establishment of the JV, the parties' combined market share at the retail level would be around [30-35] per cent with an increment of [10-15] per cent.<sup>15</sup> The combined Orange/T-Mobile entity will have the largest share of subscribers in the retail mobile market, with O2 having a market share of around [25-30] per cent, Vodafone of [25-30] per cent and H3G of [5-10] per cent with the remaining market being taken up by MVNOs. Of these, the largest is Virgin with [0-5] per cent followed by Tesco, Lebara and a tail of smaller MVNO operators.
42. This level of market share, when taken together with the resulting level of concentration in a market with potentially high entry barriers, could raise prima facie concerns. However, the OFT believes that looking at such metrics in isolation, without a full consideration of the parameters of competition between Orange and T-Mobile, is not necessarily appropriate.

#### Switching data analysis

43. In support of their argument, the parties submitted switching data analysis with the Form CO which, they argue, demonstrates that (a) Orange and T-Mobile are not close substitutes, (b) neither exerts a particularly strong competitive constraint on the market, and (c) multiple MVNOs will continue to constrain the merged entity.
44. The OFT has two preliminary observations in relation to the switching data. The first relates to the use of the data as evidence that Orange and T-Mobile are not close competitors. The second

---

<sup>15</sup> Market shares are based on customers for the first half of 2009.

concerns the use of the evidence to show that the 'mavericks'<sup>16</sup> in mobile retail telephony in the UK. These issues are analysed in turn below.

Whether or not the parties are close competitors

45. The OFT notes that a fairly high proportion of customers switch between Orange and T-Mobile: of those customers switching away from T-Mobile, [ ] per cent of these, subsequently chose Orange (only O2 attracted a higher proportion of T-Mobile customers). The OFT agrees with the parties, however, that this is broadly in line with Orange's market share. On the one hand, therefore, this would indicate that the parties are not competing more closely than their market shares would imply. On the other, however, in a market with relatively high customer inertia and high barriers to entry, the loss of this constraint could be more significant than the market shares would initially suggest.

Mavericks in UK mobile telecommunications markets

46. The parties submit that neither Orange nor T-Mobile can be considered a maverick in the mobile telecommunications market in the UK. The switching data is again used to substantiate this claim, as neither Orange nor T-Mobile appear to have gained more customers from one another beyond what their market share would suggest. More generally, the parties point to Orange and T-Mobile having lost market share over the past years and, in particular, to T-Mobile's ailing financial condition as being indicative that neither party can be considered to be a maverick.
47. [ ] T-Mobile could display some of the features that would be associated with a maverick role in the UK telecommunications market.<sup>17</sup> [ ] identified stronger 'maverick' characteristics in H3G<sup>18</sup>

---

<sup>16</sup> For clarification, the OFT uses the term 'maverick' in this context to denote a firm that is a particularly aggressive or important competitor rather than a destabilising competitor in a market exhibiting co-ordination.

<sup>17</sup> In particular, [ ] there is evidence to suggest that T-Mobile has (a) often been a price leader in the market and continues to be an aggressive competitor on price, particularly in the pre-paid segment and the sub £30 post pay segment; (b) shown pricing innovation; and (c) played an important role in the development of mobile data and broadband services in the UK.

and this is supported by the switching data which indicates that H3G captures more market share from Orange and T-Mobile than its market share would suggest. The OFT also notes the parties' submission that many firms appear to introduce innovative pricing strategies in an attempt to gain market share.

48. On balance, therefore, the OFT's view is that H3G's role as a driver of competition in UK retail mobile telephony appears to be greater than either of the parties'.

#### Impact of addition of fifth player to the UK mobile retail market

49. The OFT notes that the addition of H3G to the market in 2003 (that is, a move from four to five players) coincided with a period of falling EBITDA margins in the UK. Lower margins may be indicative of greater competitive pressure within the mobile retail market, though other changes to the mobile market (for example, increased penetration, growing numbers of MVNOs) may also potentially account for these falls in operator margins. Indeed, while an OFCOM comparison of EBITDA margins across European countries show that margins similarly fell in Italy following new entry there, margins also declined in Germany and Spain where no new MNO entry occurred.
50. The OFT also notes that any increase in competitiveness within the market following the entry of H3G may be directly linked with the specific competitive activities of H3G rather than with simple increase in number of MNOs. Further, the removal of T-Mobile may not, to the extent that H3G has been a particularly aggressive competitor, result in a lessening of competition commensurate to that which existed before the entry of H3G.

#### Role of MVNOs in retail market

51. MVNOs have gained around 11 per cent of the retail mobile market.<sup>19</sup> They are widely credited with stimulating innovation in business models within the voice/SMS segments (for example,

---

<sup>18</sup> [ ]

<sup>19</sup> Or 14 per cent if including resellers of MNO brands.

targeting niche consumer segments such as the ethnic market). Terms of wholesale access for MVNOs are, broadly speaking, unregulated, and reflect a commercially diverse set of strategies used by wholesale MNO suppliers and their MVNO customers.

52. The OFT recognises, however, that some MVNOs target very specific customer niches that may not compete strongly with the broader retail offers of MNOs. In addition, the OFT is not aware of the extent to which certain MVNOs currently offer an independent constraint on vertically integrated MNOs given the contractual relationships between them and to the extent that MVNOs are not placed to compete with MNOs across the wider array of parameters such as network quality, R&D etc.
53. On the other hand, the OFT understands that other MVNOs (such as Virgin and Tesco) compete directly with MNOs and offer similar tariff schemes and handsets. The OFT therefore believes that the competitive impact of 'full' MVNOs is a factor to be taken into account when assessing competition in the retail market, to the extent that there is no restriction in the capacity available to MVNOs as a result of the merger (see paragraphs 54 to 57 below in respect of this).

#### **Wholesale market<sup>20</sup>**

54. In the last two to three years, the number of MVNOs offering voice packages entering the market has increased substantially. It is possible that the merged entity is able to increase prices and/or worsen its offer to MVNOs post-merger. This could be as a result of a loss of an independent competitor at wholesale level and/or as a result of reduced network capacity post-merger.<sup>21</sup>
55. The OFT has received three complaints from MVNOs (or potential MVNOs) in respect of wholesale access. In particular, concerns

---

<sup>20</sup> The OFT does not view foreclosure or partial foreclosure of MVNOs as a credible theory of harm in this instance, as it is not clear that post-merger the JV will have the ability to foreclose/partially foreclose MVNOs (given the existence of other MNOs and MVNOs' ability to switch) or the incentive to foreclose/partially foreclose MVNOs (given MVNO's contribution to MNO's costs). In addition, the OFT is not aware that [ ].

<sup>21</sup> This could be as a result of a reduction in the number of sites post-merger.

were raised in respect of the reduced ability of MVNOs to negotiate with MNOs (due to the reduction in the number of competitors) and the reduction in network capacity. One MVNO, however, opposed any referral request stressing that what it required was certainty and a quick outcome in respect of this case. The OFT also notes that while there is a significant number of MVNOs operating in the UK, it has not received a large number of complaints indicating that the merger will reduce capacity or bargaining power.

56. The parties submit credible arguments that a combined Orange/T-Mobile network will initially have more capacity than two separate networks. However, the OFT would seek clarification regarding the impact that closure of [ ] RAN sites will have on total capacity and potential corresponding price increases as a result of this reduced capacity in the light of increasing demand by MVNOs.
57. As noted above, it is possible that the results of the Commission's market investigation alleviate the OFT's preliminary concerns in respect of the wholesale market. Nonetheless, the OFT notes that because MVNOs compete with MNOs at the retail level, any adverse effect arising from the merger on the wholesale market could impact on competition on the retail market, thereby exacerbating the OFT's (albeit limited) concerns over the effect of the merger on the retail market.

## Conclusion

58. The retail and wholesale mobile communications markets in the UK are currently competitive. On the basis of the evidence viewed by the OFT, there could be some concerns in respect of the loss of T-Mobile as a competitor. It is more clear to the OFT, however, that the continuing robust presence of H3G<sup>22</sup> and, albeit to a lesser extent, MVNOs is important for maintaining effective competition in the retail telephony market. In addition, as a general point, the OFT notes that while it has not come to a conclusive view as to the impact of the merger on the retail mobile telephony market in the UK stemming from the removal of T-Mobile as a competitor, it is

---

<sup>22</sup> The issue of how the merger could result in the potential foreclosure/weakening of H3G is discussed in detail below.

possible that the results of the Commission's market investigation (which the OFT has not seen) could be decisive in this respect.

59. Based on the above, therefore, the OFT is concerned that the Notified Concentration threatens to affect significantly competition in the retail and wholesale markets for the provision of mobile communications to end-consumers in the UK. These stem mainly from its concerns as to the potential removal or weakening of H3G (discussed below in detail) and from the potential effects on the worsening of the MVNO offer that could impact competitiveness on the retail market.

## **VERTICAL ISSUES**

### **3G Radio Access Network share agreement (RAN sharing agreement) between T-Mobile and H3G and post-merger foreclosure of H3G**

#### Introduction

60. T-Mobile and H3G concluded an agreement to jointly operate a 3G radio access network using a newly established joint venture in 2007.<sup>23</sup> Post-merger, it is common ground that this agreement will not automatically be altered (for example, there is no [ ]).<sup>24</sup>
61. The parties have submitted in their Form CO ([ ]) that the RAN-sharing agreement between the two was (at least prior to the Notified Concentration) essential for T-Mobile and H3G to build up a 3G network with national coverage at a lower cost and to exploit greater economies of scale than either could achieve on a stand-alone basis. Given the need (absent the Notified Concentration) for T-Mobile and H3G to compete with entities with significantly larger market shares on a cost-effective footing, the resulting network is an essential input to the current competitive process in both the wholesale and retail telecommunications markets in the UK for both RAN-sharing firms.

---

<sup>23</sup> Mobile networks consist on a radio access network (consisting of sites and network equipment used to maintain radio links to and from user equipment) and a core network (linking the different sites comprising radio access network, and other networks and services).

<sup>24</sup> [ ]

62. H3G has submitted that as a result of the Notified Concentration, T-Mobile will not have the incentive to continue with the RAN-sharing agreement (the 'incentive' argument) and that the contractual arrangements between H3G and T-Mobile enable the latter to erode the RAN-sharing agreement therefore leading to a foreclosure of H3G (the 'ability' argument).

#### Ability of the merged entity to foreclose H3G

63. The parties submit in the Form CO that the arrangement between T-Mobile and H3G is long-term [...]. According to the parties, by withholding funding for the JV or denying H3G access to any part of T-Mobile's half of the shared network, the agreement provides for extreme levels of liability and severe consequences:
- T-Mobile would be liable for H3G's losses, including [ ]
  - H3G could terminate the agreement and, in this situation, [ ]
  - T-Mobile's financial exposure under these provisions is up to [ ], and
  - if H3G were to terminate the agreement, it would also have [ ].
64. H3G, on the other hand, notes that there would not be a significant cost deterrent to T-Mobile in invoking the exit provisions. In any event H3G notes that the costs to the merged entity of continuing the RAN sharing agreement with H3G (while adding Orange) and the costs of integrating the T-Mobile and Orange networks (in the event of terminating the RAN sharing agreement) [ ].<sup>25</sup>
65. In addition, the parties submit that the agreement is also designed to ensure that neither party can frustrate the JV by allowing the quality or competitiveness of the shared 3G RAN to deteriorate since:

---

<sup>25</sup> Paragraph 2.10 of H3G's submission dated 11 January 2010.

- H3G and T-Mobile agreed [ ]. This ensures that the JV will be able to fund ongoing investment in the shared RAN [ ]. The JV is also obliged to [ ].
  - H3G and T-Mobile are also obliged to [ ]. Such investment must be reflected in the business plan. This ensures, therefore, that the quality of the shared network is maintained at a competitive level [ ]. This provides further protection to H3G that the quality and competitiveness of the shared network cannot be compromised in future.
66. H3G, however argues that these protections are in practice limited for the following reasons:
- As a result of the Notified Concentration, T-Mobile will be able to partner with Orange and therefore will no longer be dependent on the success of the RAN-sharing relationship as the only commercially credible way to develop sufficient scale in its business to compete with O2 and Vodafone.
  - The RAN-sharing agreement provides for [ ]. [ ].
67. In addition, termination of the agreement is not necessarily required for this theory of harm to be realised. For example, [ ] the merged entity may be able in essence to allow the T-Mobile network to atrophy by shifting a large proportion (or all) of new customers to the Orange network and therefore gradually reduce the size of business that draws on the network that it shares with H3G. Shutting down one of two networks is a plausible strategy for a merged entity; this type of network strategy has been observed in the Netherlands, where the regulator has imposed fines (or had spectrum returned in order to avoid fines) associated with underutilisation of relevant spectrum.
68. The complex nature of the RAN-sharing agreement and the dependency of this agreement on the on-going co-operation between H3G and the JV means that it is overly simplistic to view the question of whether the RAN-sharing agreement could

undermine H3G purely in terms of the termination or continuation of the agreement. A commercially plausible set of competitive pressures mean that T-Mobile had good reason to enter the arrangement with H3G, due to its relatively small market share, the size of its network and the need to find a strategic partner. Following the Notified Concentration, however, the enhanced bargaining power associated with being able to make (and carry out) a credible threat to undermine H3G's position in the market has clear implications for the balance of power between the JV and H3G and the corresponding pressures that can be brought to bear to cause H3G to shy away from competing as intensely as occurs today (for example via disruptive service offers). The OFT therefore considers that assessing the incentives of the JV to remain in the RAN-sharing agreement with H3G is critical in this context.

69. As a final point, the OFT notes that the merger does not *enhance* T-Mobile's ability to terminate the agreement. It is likely, however, that it enhances the possibility that H3G is foreclosed if the RAN sharing agreement is terminated.<sup>26</sup> In addition, it does impact on the incentives T-Mobile has to terminate the agreement.

#### Incentives of the merged entity to foreclose H3G

70. The parties submit that the synergies they expect to achieve from the merger [ ]. They also submit that [ ] and that this is supported by the documents submitted in response to section 5.4 of the Form CO. The parties submit, in addition, that T-Mobile has expended significant resources in the implementation of the RAN sharing agreement and that it would be very complex and costly to unwind the existing arrangements [ ]. Withdrawing from the JV (according to the parties) would result in T-Mobile not having a 3G network until it were able to consolidate its network with Orange, entailing a period of network disruption. This would risk a deterioration in the public's perception of the quality and coverage of T-Mobile's 3G network and, consequently, also possibly a loss in market share.

---

<sup>26</sup> For example, it is possible that H3G could have entered into a RAN sharing agreement with Orange if T-Mobile terminated absent the merger.

71. H3G argues that the consequences of terminating the RAN-sharing agreement would be severely negative for it as H3G would not have a stand-alone national network in place. This would result in H3G either exiting the market, or being forced to accept wholesale terms of access from another MNO that were prohibitive and/or that removed any incentive it had to compete aggressively (for example, as a result of the structure of wholesale charges). The JV would therefore (in H3G's submission) have an incentive to exclude H3G from the market as it would remove a very active competitor.
72. When considering the incentive for a merged entity to engage in input foreclosure, the normal analysis focuses on comparing the profit foregone from selling less of the input (to the foreclosed rival) and the profit gained from selling more of the output (by picking up sales from the foreclosed rival). In this case, however, the comparison is between a loss in **cost savings** (rather than loss of input sales) and the profit gained from selling more of the output. H3G estimates that opex cost savings for the merged entity from the RAN sharing agreement would be in the range of £[ ] to £[ ] million per annum.<sup>27</sup> H3G has, in addition, provided some analysis showing the benefits to the merged entity of eliminating H3G from the market. H3G has estimated (on the basis of pre-merger diversion ratios and gross margins for the merged entity based on industry reports) that the total incremental profits for the merged entity were it to eliminate H3G, range from between £[ ] per annum to £[ ] per annum. This, H3G claims, by far exceeds the opex savings the merged entity would achieve by continuing the RAN sharing agreement.
73. The parties submit in their response to H3G's arguments<sup>28</sup> that withdrawing from the agreement would not only result in T-Mobile [ ], but that it would also expose it to a liability of [ ]. The merged entity's incentives do not, therefore, lie in terminating the RAN sharing agreement.

---

<sup>27</sup> H3G's own opex savings are approximately £[ ] per annum.

<sup>28</sup> Response to the Submission by 3UK of 11 January 2010.

74. As noted above, H3G has submitted that if the RAN-sharing agreement is abandoned, it would be unable to share its network with another MNO (and that it will effectively be left with a network with such reduced coverage that its ability to effectively compete would be severely compromised). H3G states that neither Vodafone nor O2 would have the incentive to share their RAN with H3G as it would be to their advantage if H3G exited the market.<sup>29</sup> In addition, the timing and practicalities involved in H3G rolling out another network, coupled with the fact that other operators will have sites that are not necessarily suited to the spectrum that H3G has, would make the availability of another partner for H3G appear remote.

#### Anticompetitive effect

75. Any foreclosure or weakening of H3G would effectively mean that the Notified Concentration would result in a reduction of vertically integrated competitors from five to three in both the retail and wholesale mobile telephony markets.
76. Despite the small market share of H3G it is widely regarded as a maverick in the UK market and the potential for its removal alongside the reduction in the number of vertically-integrated MNOs arising from the merger would cause significant concern (see in this respect paragraph 47 above).
77. The parties dispute the anticompetitive effect of any potential foreclosure of H3G by downplaying H3G's role in aggressive downwards price movement and stating that in the competitive environment of UK mobile retail telephony, a number of players introduce aggressive pricing initiatives.<sup>30</sup>

---

<sup>29</sup> Vodafone and O2 have an agreement (with each other) to share sites (sometimes termed passive network sharing) but it is unlikely either could easily accommodate a active RAN-sharing arrangement of the sort currently undertaken by T-Mobile and H3G without a significant shift in their strategies towards network deployment – a scenario we do not believe is plausible in the medium term.

<sup>30</sup> While the parties state this in the Form CO (see page 72) they subsequently mention that they do not think that H3G is 'hardly any operator who permanently has the role of a maverick in a given mobile market' (3UK paper).

78. Despite these claims, however, the OFT is concerned that the loss of H3G as a source of competitive pressure could have a very significant adverse impact on competition in mobile telephony and mobile broadband services in the UK as it would in effect represent a '5 to 3' transaction in a market characterised by very substantial barriers to entry and growth.

## Conclusion

79. The OFT notes the parties' extensive submissions as to T-Mobile's lack of ability and incentive to withdraw from the RAN sharing agreement with H3G. In this respect, the OFT also notes Ofcom's view is that this is necessarily a very complex and detailed arrangement which requires an on-going working relationship between the two parties. While the ability to exit these arrangements needs to be considered, of arguably more importance is the incentive question. While the parties' arguments on incentives could be plausible, the OFT believes these are difficult and complex issues that warrant closer consideration in order to reach a definitive view.
80. Given the above, therefore, the OFT is concerned that the Notified Concentration results in a risk that H3G could be significantly weakened or exit the UK retail/wholesale mobile telephony market. This would therefore threaten to affect significantly competition in a market within the UK.

## Issues relating to spectrum

### Introduction

81. Spectrum is a scarce and finite resource which is an essential input for the provision of all voice and data mobile services. Paired spectrum holdings<sup>31</sup> for MNOs (pre and post merger) in the UK are as follows:

---

<sup>31</sup> We understand that non-paired holdings are not likely to be relevant for 3G or LTE deployment in the near future.

Operator	Current Holdings			
	2G 900MHz	2G 1800 MHz	3G 2100 MHz	Total
Orange	-	2x30MHz	2x10MHz	2x40MHz
T-Mobile	-	2x30MHz	2x10MHz	2x40MHz
<b>Combined</b>		<b>2X60MHz</b>	<b>2x20MHz</b>	<b>2x80MHz</b>
Vodafone	2x17.4MHz	2x5.8MHz	2x15MHz	2x38.2MHz
O2	2x17.4MHz	2x5.8MHz	2x10MHz	2x33.2MHz
H3G	-	-	2x15MHz	2x15MHz
<b>Total</b>	<b>2x35MHz</b>	<b>2x72MHz</b>	<b>2x60MHz</b>	<b>2x167MHz</b>

82. Spectrum in the 900MHz and 1800MHz frequency bands are currently used for 2G mobile services; the 2100MHz frequency band is used for 3G services. As can be seen from the above table, the JV parties will hold 84 per cent of the available spectrum in the 1800MHz frequency band. Concentrations of contiguous bandwidth are important for the download and upload speeds that can be achieved, and the consistency with which those speeds can be delivered for LTE, the next generation of mobile broadband.

### **Spectrum holdings and their importance for launching of LTE technology**

83. In addition to the spectrum shown allocated in the above table, two further bands of spectrum are due to be made available within the next few years:

- 2x30MHz of spectrum in the 800MHz band, and
- 2x70MHz of spectrum in the 2.6GHz band.<sup>32</sup>

<sup>32</sup> 1x40MHz of unpaired spectrum will be available in the 2.6GHz band this is not likely to be relevant to the deployment of 3G or LTE in the near future.

84. The UK Government is currently consulting on proposals that would entail the auctioning of these two bands of spectrum together in the first half of 2011. The 800MHz band would then become available for use by the end of 2013; the 2.6GHz band would be available for use immediately. However, the 2.6GHz band will be subject to certain restrictions on its use in certain geographic areas until sometime in 2013 or 2014.
85. In the context of mobile broadband, three dimensions of the spectrum holdings of an operator are particularly relevant:
- the frequency band used, with lower frequency spectrum generally being preferable to higher frequency spectrum as lower frequency signals generally travel further and more deeply into buildings than do higher frequency signals
  - the amount of contiguous bandwidth available, with greater bandwidths (for example, 2x20MHz) generally being preferable over lesser bandwidths (for example, 2x10MHz) as this can allow both the provision of higher speed end-user services and the provision of moderate speed end-user services more consistently over a larger area, and
  - the aggregate amount of bandwidth available, which determines the level of demand at which the network operator has to start taking additional, generally more costly steps, to increase capacity.
86. The distribution of spectrum amongst competitors for the provision of next generation mobile broadband services is likely to have a significant impact on the shape of future competition for the provision of mobile services in the short and long terms. The importance of spectrum holdings to competition is demonstrated by the design of the 3G spectrum auction.<sup>33</sup>

---

<sup>33</sup> In the 3G auction, five licences were offered, each of which included sufficient spectrum to launch a commercial 3G service, one of which was reserved for a new entrant, and in which no one party could acquire more than one licence.

87. The OFT understands that in order to deploy the most efficient and fastest download speed LTE technology, contiguous spectrum of 2x20 MHz is required. While LTE can be launched on 2x10 MHz, the OFT understands that the full speed will not be reached if this bandwidth is used. The parties submit that having a 2x20MHz LTE network at the 1800MHz band is less efficient than having a lower frequency LTE network given the lower costs entailed (that is, better coverage with fewer sites) and benefits to users (that is, in-building reception) of the lower frequency network. [ ] comment that, as the merged entity already has a network in place which gives it coverage to the same extent as Vodafone and O2 (that is, they already have a sufficient number of sites in place to provide national coverage on their current spectrum-holding) any advantage the 900MHz spectrum has due to its superior propagation characteristics is nullified. In addition, [ ]<sup>34</sup>. [ ]

88. [ ]

89. [ ].

90. On balance, and despite the conflicting submissions by MNOs in this respect, the OFT notes that there appear to be plausible arguments that the 1800MHz spectrum could be used by the JV to launch a national 2x20MHz LTE network<sup>35</sup> in the near future due to the fact that it can:

- offer both good coverage (if sufficient sites are built but the parties will already have an 1800MHz grid in place for their 2G network), and
- offer up to 100Mbps speed.

---

<sup>34</sup> [ ]

<sup>35</sup> The OFT understands that the propagation characteristics for 2100MHz spectrum are similar to 1800MHz spectrum but as currently 2100MHz spectrum is used for 3G and that all operators hold fragmented quantities for it, it would not be easy to clear 2100MHz spectrum for LTE use.

91. The concern raised by O2 and Vodafone is that the JV will be the only MNO with a clear path to full coverage maximum-speed LTE technology. In particular, O2 and Vodafone are concerned that:
- the JV is the only undertaking that has enough spectrum to successfully migrate to LTE technology in the immediate future. [ ] The parties dispute this and argue that given that they would have to integrate their networks, they could not clear 2x20MHz of 1800MHz spectrum before at least [ ], and
  - this will result in a bifurcation of the market in the years to come, with the JV being the **only** MNO in the UK able to offer LTE technology at the best possible speeds with full coverage (with the remaining MNOs offering a much more inferior product) (see paragraph 120 for a discussion as to the anticompetitive effects of the transaction and resulting consumer harm).

#### Counterfactual

92. In establishing the relevant counterfactual for the merger, the OFT starts from the position that pre-merger conditions are normally the appropriate basis for any analysis. However, in this case, given the backdrop of the Government's Digital Britain Review and the proposed spectrum auction(s) over the next few years, the OFT is conscious of the fact that, absent the merger, the future spectrum-holdings of MNOs could in fact be quite different. Given that the spectrum auction process, however, is not finalised, the OFT has considered the competitive landscape under different possible counterfactuals.
- having a national 2x20MHz LTE network would have significant advantages in terms of maximum download speed, and potentially also in terms of consistency of provision of lower download speeds, and
  - analysis of the relative performance of LTE networks using different amounts of spectrum in different frequency bands is

very complex and will take some time to complete. For example, [ ] it may be that the advantages of 2x20MHz LTE in 1800MHz spectrum may be matched by using a combination of lower and higher frequency spectrum, but also may not.

93. Below we consider two counterfactuals. In the first, MNOs acquire spectrum at auction and develop national networks using combinations of these frequencies and their current frequency holdings. In the second, we consider MNOs' partnering options absent the merger.

#### **Creation of LTE networks using mixed frequency spectrum**

94. [ ] absent the merger, a likely path to LTE for MNOs would be to build mixed frequency networks combining a limited bandwidth (2x10MHz) of spectrum of sub-1GHz (in either the 800MHz or 900MHz band) with a larger amount (2x20MHz) of higher frequency spectrum (in either the 1800MHz or 2.6GHz band).<sup>36</sup> There is sufficient spectrum available for up to five networks to be built in this way in the longer term.
95. Of these mixed frequency networks, the ones using spectrum in the 2.6GHz band would provide 2x10MHz LTE services (up to 50Mbps) across most of the UK, and higher speed 2x20MHz LTE services (up to 100Mbps) in urban areas. However, the extent and quality of the coverage of higher speed mobile broadband services provided by such networks is likely to be inferior to that provided by those networks built using a combination of sub-1GHz spectrum and 1800MHz spectrum. In the limit it is possible that the networks built using 1800MHz frequencies could provide full-speed mobile broadband services almost nationwide (covering perhaps more than 90% of the UK population) whereas those built using 2.6GHz spectrum would be limited to providing such services only in urban areas (covering perhaps as little as 50 per cent of the UK population).

---

<sup>36</sup> [ ]

**Creation of one or two shared national 2x20MHz LTE networks by pooling spectrum between Orange and T-Mobile and perhaps O2 and Vodafone**

96. Another option available to MNOs, that would allow the earlier launch of full coverage 2x20MHz LTE networks, would be to pool spectrum in the 1800MHz band. There are a number of different options that would have been available to MNOs prior to the merger, namely for either Orange or T-Mobile to pool their spectrum with either (or both of) Vodafone and O2 or for Orange and T-Mobile to pool their spectrum with each other. These different possibilities are discussed below.
97. O2 submits that in order to roll out LTE1800 with 2x20MHz, both T-Mobile and Orange would have a strong incentive to reduce their clearance costs by pooling spectrum with one (or both) of O2 and Vodafone. The general principle would be to move, say, T-Mobile's 2G customers onto O2's 900MHz spectrum so that 2x15MHz of T-Mobile's 1800MHz spectrum is freed up. The 2x15MHz spectrum could then be combined with O2's 2x6MHz of 1800MHz spectrum to obtain a 2x20MHz national LTE network.
98. O2 admits that it is possible that T-Mobile might consider entering into a pooling agreement with Orange rather than O2 or Vodafone. However, O2 submits that entering into an agreement with a 900MHz operator is likely to be more attractive as it provides access to 900MHz spectrum for T-Mobile 2G and 3G customers when O2 deploys UMTS900. Absent the JV, the parties would face a trade-off between either:
- obtaining access for its customers to use UMTS900,<sup>37</sup> but increasing the number of competitors with national 100Mbps LTE,<sup>38</sup> or

---

<sup>37</sup> UMTS900 may be available to customers in the next 12-18 months.

<sup>38</sup> [ ]

- not obtaining access to UMTS900, but ensuring that, separately, Orange and T-Mobile are the only MNOs with national 100Mbps LTE.

99. It is not clear whether the second option is a sustainable equilibrium given the fixed costs involved in developing a 100Mbps service, and the emphasis that the JV parties place on the attractiveness of UMTS900 in their Form CO.

100. [ ].

#### Conclusion on counterfactual

101. The OFT notes that there is significant uncertainty surrounding the relevant counterfactual against which the merger should be assessed. However, it is clear from the above that, under a number of circumstances, prior to the merger there would be more than one full-speed national LTE network launched in the UK in the short to medium term.

#### Ability of the merged entity to foreclose its competitors

The merged entity could possibly have the only full-speed national LTE network in the short to medium term

102. As discussed above, the amount and type of spectrum held by an MNO dictates its ability to launch an LTE network as well as the speed of that LTE network.

103. The parties submit that post-merger, mixed frequency networks are still the most likely outcome as this is the most cost-effective way of launching a national LTE network and that there will be a number of LTE networks launched by other MNOs.

104. [ ]. The options available to Vodafone and O2 (with a corresponding explanation as to why these could fail) are summarised in the following table:

Available spectrum by band	Vodafone or O2	Vodafone with O2	Can Vodafone/O2 match a 20MHz carrier with nationwide coverage?
800MHz	Possible if both acquire 2x10MHz each and share. In practice, not an option because the BIS rules require Vodafone and O2 to divest an equivalent amount of 900MHz spectrum.	Not an option because of the divestment rules	No unless the divestment rules changed.
900MHz	Vodafone/O2 could individually clear 5MHz of 900MHz spectrum by [ ] and a further 5MHz by [ ]. This is not sufficient to launch an LTE network at 100Mbps speed.	Could launch a 2x10MHz LTE network sometime after [ ]. They would have to wait until [ ] to be able to launch one shared 2x20MHz LTE network.	No. They can only clear sufficient spectrum by [ ] <sup>39</sup> assuming pooling of spectrum with O2 and that neither party clears 900MHz spectrum for re-farming for 3G. If both parties re-farm for 3G then the maximum shared carrier size available is 10MHz.
1800MHz	Vodafone and O2 could each clear 5MHz of their 1800MHz spectrum by [ ] but this would only allow launch of 2x5MHz LTE.	Vodafone and O2 could launch a 2x10MHz LTE network relatively soon, but have no option to launch a 2x20MHz LTE network without release of 2x10MHz of spectrum by the JV.	Vodafone and O2 could only launch a 2x20MHz LTE network if 10MHz of 1800 spectrum is sold by the merged entity and they pool their spectrum.
2100MHz	This spectrum has similar propagation characteristics to 1800 MHz and therefore would be appropriate for launching an LTE network. However, it is heavily utilised for 3G so clearing 2x20MHz could be difficult. Vodafone: could initially deploy a	This outcome appears unlikely given that it would leave only 2x5MHz for the residual 3G traffic.	This would be an option for Vodafone in the medium term i.e., after 2017 and even then it would have only a 2x10MHz LTE network.

<sup>39</sup>[ ]

	<p>5MHz LTE coverage layer at 2100MHz utilising Vodafone's 3<sup>rd</sup> WCDMA carrier. This could be done in [ ]. As 3G traffic migrates to LTE the bandwidth could be expanded to 10MHz at a later date (after 2017). Only a realistic option if Vodafone does not migrate 2G voice traffic to 3G (necessary in order to re-farm 900MHz spectrum for 3G).</p> <p>O2 only has 10MHz of 2100MHz spectrum so it would have no realistic option to clear this spectrum in the medium term: it would mean closing its 3G network.</p>		
2.6GHz	Vodafone or O2 can purchase 2x20MHz of 2.6GHz spectrum for 'hot-spot' coverage that could be used to launch an LTE network in 2013-2014.		2.6GHz spectrum is only suitable for localised 'hot-spot' coverage. Vodafone estimates that an LTE network at 2.6GHz covering 80 per cent of the population would require around 22,000 sites (with more than 15,000 new sites) and take until at least 2017 to build.

105. As can be seen from the above, it could be the case that with current assumptions as to the state of technological development, only the merged entity would be able to deploy a national 2x20MHz LTE network within the next two to three years.
106. Vodafone and O2 could only launch a national LTE network in the short term by pooling their spectrum or by acquiring additional spectrum at auction, and would be limited to a maximum speed of 50Mbps. An LTE network based on a combination of either

800MHz or 900MHz combined with 2.6GHz spectrum would provide up to 100Mbps in urban areas and up to 50Mbps in rural areas, but may not provide the same extent and quality of coverage for higher-speed mobile broadband services as an LTE network based on a combination of sub-1GHz spectrum and 1800MHz spectrum.

107. As discussed above, Vodafone and O2 submit that the benefits of 2x20MHz LTE are such that the market would bifurcate. In particular, they submit that allowing the merged entity to retain its current spectrum holdings without any accompanying remedy would lead to a two-tier market, with one near-monopoly 4G provider and a handful of lower-speed providers with less coverage.  
[ ]

108. The parties submit that this cannot be the case for a number of reasons:

- they submit that LTE is not the step change Vodafone and O2 describe it to be and that given the available technologies that can be launched within the next year on 3G networks (for example, HSPA+) that can offer speeds of up to 40Mbps
- [ ]
- in the medium term, Vodafone and O2 could also clear 10MHz spectrum at 900MHz and again pool their spectrum to deploy maximum speed LTE technology
- given that 3G will be the dominant technology over the next years and that Vodafone and O2 will have the ability to deploy such a network at 900MHz spectrum (with all the resulting benefits of better coverage and in-door penetration), it is Vodafone and O2 that will be in the stronger position in the mobile telecommunications market going forward
- the parties dispute the fact that a 2x20MHz LTE network is required for effective national coverage – they maintain that 2x10MHz is sufficient for a rural LTE network where the

demand is lower and that a 2x20MHz LTE network could be launched in urban areas through a number of different options (given that 2.6MHz spectrum will become available), and

- 50 Mbps would be a sufficient download speed for practically all applications.

109. An example given by Vodafone as to how superior network quality can create a two tier market is the situation in Australia where the leading network has created such differentiation in relation to the other players in terms of network performance that it can price at a significant premium (not justified by its superior performance) to the other networks in the market.<sup>40</sup>

110. The OFT notes the differing views on this issue. It notes, however, that it seems plausible that post-merger, absent the acquisition of spectrum (which is, in the short term, uncertain) or spectrum pooling arrangements (which the OFT understands to be in themselves complicated) between Vodafone and O2, the merged entity would likely have the only national LTE network at 2x20MHz within the next two years. In relation to the parties' submission that 50Mbps would be more than sufficient for practically all applications, the OFT notes that 50 or 100 Mbps are headline speeds: in reality, the achievable speeds will be much lower so that there would be applications for the achievable speed of 2x20MHz LTE networks. While it is possible that in time other LTE networks could be launched, the OFT is concerned that this superior network quality obtained with a significant time advantage could result in part foreclosure of competitors (as the network 'tips' in favour of the merged entity creating two tiers of providers).

---

<sup>40</sup> In Australia, Telstra has been able to price at a significant premium for voice services because of its superior coverage – its average revenue per minute in 2008 was approximately 40c per minute compared to 30c for Optus (the next best network) and 20c for Vodafone and H3G. In relation to mobile broadband, Telstra has built a network with higher data speeds than any other network (21Mbps compared to 7.2Mbps for the other three operators). This has been the centrepiece of its broadband marketing campaigns – it consistently claims the biggest and fastest mobile broadband network. This has enabled Telstra to sustain prices up to four times the prices of Optus, Vodafone and H3G. In December 2008 Telstra charged \$59.95 per month for a 1GB plan compared to \$39.95 for Optus, \$19.95 for Vodafone and \$15 for H3G. Since then Telstra has not moved this price while Optus has reduced its price to \$15 to compete with Vodafone and H3G creating a clear two-tier market. In spite of this substantial premium Telstra has been able to sustain a stable share (over the last two years) of 3G mobile broadband subscribers of around 50 per cent and an even higher revenue share.

### Incentive to foreclose

111. The parties would have the incentive to exclude their competitors to the extent possible as this will increase their customer base significantly. This foreclosure could also be costless for the JV (assuming it would have anyway incurred the spectrum clearance costs) to the extent that it would have the capacity to accommodate the increased traffic. The OFT notes that with the move to LTE, the capacity of the merged entity will increase significantly, as the LTE technology uses spectrum more efficiently so the merged entity could accommodate more customers on its network.

### Impact on competition

#### Introduction

112. Spectrum is an essential facility input for a mobile network. It is, in addition, a scarce state resource and any decisions that are made in respect of spectrum acquisition (or non-acquisition) now will have very long term effects on the UK mobile telecommunications landscape given the scale of investment involved in deploying new networks.
113. As discussed above, absent the merger it seems likely that there would be at least two national 2x20MHz LTE networks operating in the UK (although it is possible that, depending on the counterfactual, there could plausibly have been more than two). The section below explains the OFT's concerns as to the effect of the merger on competition in the retail mobile telecommunications market going forward.

#### Impact on future competition - timescales

114. The OFT notes in this respect that LTE technology is not currently launched in the UK and there are a number of uncertainties surrounding its application. [ ]

115. The OFT also notes that:

- the relevant LTE standards have been adopted and other countries have in fact already allocated spectrum for LTE, including Finland (1800 MHz band) and Hong Kong (SmarTone-Vodafone)
- MNOs are currently actively considering investment strategies in a particular technology or technical configuration.<sup>41</sup> It is clear that these investment decisions will impact on the way the LTE technology will be rolled out over the next few years. Also, once the investments are made, the risks and public policy concerns about expropriating the parties' spectrum holding would need to be weighed up against any benefits of realigning spectrum rights to address competition concerns. Put simply, it is far preferable to resolve these issues earlier rather than after networks are deployed, and
- LTE network equipment is already being created or could very quickly be created for all relevant spectrum bands.

116. The parties state that LTE will not be launched in the near future, that for the next five to ten years mobile broadband services will be dominated by 3G technology and that it will take time for LTE to substantially penetrate the market. In addition, as discussed above, the parties have not yet made final decisions in respect of their LTE strategy. In particular, the parties note that LTE handsets will not be available until quite a few years in the future since LTE voice technology differs significantly from that of 3G and that voice revenues are what is most important to operators (and they will continue to be so). However, the OFT notes O2's submission that as data has become more significant, this will become a driving force for customers purchasing mobile telecommunications services and that handsets will be able to accommodate 3G voice with LTE data services, much as 3G handsets are interoperable on 2G. On this basis, and because the deployment of LTE dongles will likely

---

<sup>41</sup> The example of 3G is illustrative: the investment decisions in relation to 3G were made almost a decade before the effect on competition was felt.

occur before the deployment of LTE handsets, the impact of LTE would therefore appear to be much more immediate than the parties suggest.

117. In general, pipeline technologies and the corresponding impact of a merger on future competition is something that the Commission looks at. The OFT therefore considers that it is appropriate in this case to assess the impact of the merger on future competition and that the advent of LTE is proximate enough for it to be considered in the context of merger control. The time-frame in the present case (two years) is within the time-frame that can normally be assessed within the merger control context.

Why the OFT does not consider that this is an efficiency 'offence'

118. We note that the parties have argued that the spectrum concerns raised are akin to an 'efficiency offence' and that merger control should not seek to remedy instances where the resulting entity would be a stronger competitor. However, should the theories of harm described above be verified, and on the basis of the evidence received the OFT does consider these to be credible, the OFT does not consider that this is a valid objection by the parties.
119. The OFT does not consider that the combination of the spectrum-holdings of the parties in this case will result in an 'efficiency offence'. The OFT accepts, of course, that if a merger creates a better and more efficient competitor, merger control should not intervene to prevent this merger from going ahead if these efficiencies would translate into benefits for consumers. However, the OFT notes that the merged entity's ability to launch the sole national 2x20MHz LTE network in the UK will not be a result of optimal resource allocation, but by combining a scarce resource so that it is therefore impossible for other competitors to match this advantage. In this regard we note that the parties' merger in the Netherlands resulted in them being fined for not making sufficient use of their spectrum so there is some precedent of the parties not utilising spectrum efficiently in the past.

Consumer harm resulting out of the merged entity having the only viable LTE network

120. The OFT notes that based on the above counterfactual, it is likely that more than one national 2x20MHz LTE networks would have been launched in the UK. The starting point for its analysis, therefore, is that the reduction of competition in national 2x20MHz LTE networks will result in a detriment to consumers both through the impact on competition in the retail market but also through the impact on competition on the wholesale market. The Telstra example in Australia, discussed above, is an illustration of how consumers could be harmed by such a bifurcation of the market. Moreover, it is not obvious to the OFT that there are any efficiencies arising out of having only one national 2x20MHz LTE network and the parties have not made any submissions to this effect.
121. Based on the current evidence, therefore, the OFT considers that there is a prima facie case that the merger could have a negative impact on consumers by eliminating competition between MNOs going forward.

#### Conclusion

122. The OFT notes that the future spectrum-holdings of the UK MNOs are uncertain. However, based on its current assessment of the facts, the OFT considers that the Notified Concentration could result in a significant **adverse** impact on both the wholesale and retail telecommunications markets over the next few years.
123. **The first requirement of the Article 9(2)(a) test is therefore met, since the Notified Concentration threatens to significantly affect competition in the retail and wholesale mobile telecommunications markets in the UK.**

**CONCLUSION ON ARTICLE 9(2)(A) REQUIREMENTS AND ON WHETHER THIS IS AN APPROPRIATE CASE FOR THE COMMISSION TO REFER BACK TO THE UK**

124. Based on the above, the OFT considers that the requirements of Article 9(2)(a) are met, since the Notified Concentration threatens to affect significantly competition in markets within the UK, which present all the characteristics of distinct markets.
125. For the reasons described above in paragraphs 15 to 20, the OFT also considers that the Commission should exercise its discretion in referring this case back to the UK. Most importantly in this respect, it notes that the entire competitive effects of the transaction will be felt by consumers in the UK.

**CONCLUSION**

126. For the reasons described above, the OFT therefore requests the Commission to refer the UK aspects of the Notified Concentration to the OFT for review. In particular, the OFT would request that the following markets would be referred for review in the UK:
- (a) **market for retail mobile communication in the UK**
  - (b) **market for wholesale access and call origination services on mobile networks in the UK, and**
  - (c) **wholesale call termination on the JV's mobile network to the extent that this relates to retail mobile communication in the UK.**