

**Public Sector Spectrum Release (PSSR)**

**Ofcom consultation on the award of the 2.3 GHz and 3.4 GHz spectrum bands**

**June 2015**

**Telefónica UK Limited response**

**NON CONFIDENTIAL VERSION**

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## Section 1

### INTRODUCTION

1. Telefónica UK Ltd (“Telefónica”) is grateful for the opportunity to respond to Ofcom’s May 2015 consultation on Public Sector Spectrum Release (PSSR). We are a supporter of many aspects of Ofcom’s proposals for this award, including running a combined award for the 2.3 GHz and 3.4 GHz bands and using a simultaneous multiple round auction (SMRA) format. However, we strongly oppose any steps that would lead to the auction being broken up, with part of the spectrum being awarded prior to the conclusion of the current merger processes and the remainder withheld for an unspecified period of time.
2. As we have stated previously in our responses to various spectrum related consultations, we urge Ofcom to take full account of the extensive uptake of mobile broadband and phenomenal growth of mobile data traffic, when making decisions concerning the allocation of spectrum suitable for mobile services. It is our expectation that this trend will continue well beyond 2020 and thus a sufficiently long term view is needed. We support Ofcom’s intention to address the strategic challenges facing the UK regarding the growing demand for mobile data and the spectrum used to deliver it, with the focus on the consumer and economic benefits that it can bring.
3. Ofcom has correctly identified that capacity will become a key factor going forward and that demand for mobile broadband services will remain the most significant driver for mobile data capacity. Telefónica has seen traffic grow by more than 100% year-on-year and this rate of growth is still accelerating as customers increasingly use LTE. Our experience is consistent with evidence from around the world which shows significantly higher usage of mobile data on LTE, when compared to 3G. Increased Smartphone adoption and use of data hungry applications such as video, are playing an important role in this growth.
4. Ofcom states that over half of the total amount of spectrum available for wireless use in the UK is used by the public sector, with a quarter of that on an exclusive basis.<sup>1</sup> We see the release of public sector spectrum as making a significant contribution to future spectrum availability for mobile broadband. We are pleased to note Ofcom’s continued activity in supporting the Government’s PSSR programme in order to free-up more of this spectrum, especially where it is under-used, as release will result in a more optimal use of this valuable and finite resource. We believe that there should be more timely releases of public sector spectrum and we are pleased that Ofcom has identified the release of the 2.3 GHz and 3.4 GHz bands as a priority.
5. We agree with Ofcom that it is important that the PSSR spectrum is freed up to match demand. If there were a “capacity crunch”, owing to spectrum release lagging demand, MNOs would be obliged to ration the supply of mobile broadband capacity, something that would damage the user experience and have broader negative implications for the UK economy. Telefónica’s view is that the release of PSSR

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<sup>1</sup> Ofcom, Consultation on Spectrum Management Strategy, October 2013, §1.18.

spectrum should occur as soon as the two merger processes have been completed. We anticipate that this will be possible in the first half of 2016, with minimal risk of further delay. [3<].

6. Selling any spectrum prior to the resolution of the current mergers would be a gross error that would risk squandering future benefits for consumers from the increased capacity for LTE. As we highlight in our response, there would be a substantial risk of an inefficient primary allocation, for example because bidders would face undue uncertainty regarding market structure and could not efficiently manage substitution risks across two awards. [3<].
7. Further, Telefónica would take exception to a situation whereby Ofcom proceeded with part of the PSSR award once BT/EE had achieved ‘certainty’ over their transaction, but before H3G/Telefónica were decided. This would amount to discrimination, in our view, that Ofcom was willing to wait until risks were removed for BT, but not for Hutchison/Telefónica.
8. We understand Ofcom’s concern that there “*may never be a ‘perfect time’ to award the spectrum,*” but we think the more relevant point here is that it would be hard to imagine a worse time to proceed with a major award than immediately before the conclusion of two competition investigations into major industry mergers. To put the situation in perspective, there has been only one investigation concerning mergers of UK mobile operators in the last 15 years (Orange/T-Mobile), so to have two such processes at the same time is clearly an exceptional situation.
9. The prudent course of action is for Ofcom to wait for the resolution of the mergers before proceeding with a combined award. Even if the delay were longer than six months, our view is that the potential benefits from waiting and having a combined award later far outweigh the costs associated with selling an arbitrary share of the PSSR spectrum prematurely. In the meantime, Ofcom can continue with its preparations for a single auction, so that it is ready to move quickly with the award once conditions allow.
10. Our response is divided into three further sections:
  - **Section 2: Options for Proceeding with the Award**  
We set out our position why all available spectrum should be sold in a single simultaneous award, which should take place as soon as possible after the current mergers are completed.
  - **Section 3: Award Process and Auction Design**  
We welcome Ofcom’s decision to use an SMRA format for this award but highlight a number of concerns with specific rules.
  - **Section 4: Technical Issues**  
We comment on Ofcom’s decisions on technical issues.
11. Finally, our responses to the specific questions raised in the PSSR consultation are provided in Annex I. These refer the reader directly back to the detailed responses in Section 2.



## Section 2

### OPTIONS FOR PROCEEDING WITH THE AWARD

13. In the May Consultation, Ofcom’s puts forward a tentative proposal to proceed with a sequential award, with the majority of the spectrum sold as soon as possible, and remaining spectrum sold in a later award. Telefónica opposes this approach. Our firm view is that all the available spectrum should be sold in a single simultaneous award, which should take place as soon as possible after the current mergers are completed.
14. An omission from Ofcom’s consultation document is any attempt to provide a cost-benefit analysis of the impact of splitting the award. In parts A and B of this section, building on the limited analysis in Section 3 of the May Consultation, we set out and discuss a list of potential benefits and costs that may be associated with a split award. We show that the potential benefits are either small or uncertain, whereas the potential costs could be substantial. In part C, we argue that it would be premature to launch an award for any of the available spectrum before the outcomes of the current competition investigations are resolved. Finally, in part D, we show that there is no sensible way to split the award, either with respect to the amount of spectrum set apart, or the choice of bands.

#### A. Potential benefits from a split award are small

15. In the May Consultation, Ofcom puts forward two related arguments for why there may be benefits from proceeding with the award (for the majority of the available spectrum) as soon as possible. First, Ofcom states that the spectrum is available now and is unused and expresses concern that a “delay of up to two years” may not be the best use of the spectrum. Secondly, it highlights evidence from stakeholder engagement that there is demand for the spectrum.
16. Restating and expanding this list, we can identify three categories of benefits that merit consideration:
1. The spectrum may be deployed earlier, resulting in a stream of economic benefits.
  2. The spectrum may support new and innovative services and/or new competitive entry, also resulting in a stream of economic benefits.
  3. An earlier auction will mean earlier releases of revenues for the Government.
17. Ofcom does not explore any of these categories in detail. If, following this consultation, Ofcom proceeds to undertake a detailed cost-benefit analysis, we are confident it will conclude that the potential benefits are modest. Indeed, we think it unlikely it will consider a quantitative analysis to be worthwhile; given the strength of the qualitative arguments we present here to show that benefits are modest and costs could be high.

*Potential benefits from earlier release*

18. There is a well-established economic literature on the benefits of bringing services to market sooner rather than later. Notably, Hausman (1997) calculated the loss in consumer welfare associated with the 7-10 year regulatory delay in approving the widespread availability of mobile telephones in the USA at up to \$24.3bn a year in 1983 dollars.<sup>2</sup> This literature has often been referenced by those making the case for earlier or larger releases of frequencies for mobile use. However, as the Hausman paper demonstrates, the level of future benefits that might flow from ‘early’ release depends critically on the duration of the delay and the nature of the services being delayed.
19. It is evident that the potential delay in this case is rather short, probably 6 months, at most. This is a tiny period compared, for example, with the delays in auctioning the 2.6 GHz band in the UK, which was first proposed for award in a December 2006 Consultation document<sup>3</sup> but not sold until 2013, or the 7-10 year delay addressed by Hausman.
20. [X] our analysis of past awards in Table 1 implies a gap of about 6 months between publication of the IM and the auction start date. Given the cursory nature of the current consultation, we are strongly of the view that Ofcom would need to consult again if it decided to proceed with a split award, which implies that it would be unlikely to be ready to publish the Information Memorandum (IM) before September 2015, which in turn suggests an earliest date of March 2016 for the first auction.

**Table 1: Ofcom awards – gap between publication of IM and start of auction**

Award	IM Date	Auction Start Date	Days (months)
800 MHz & 2600 MHz	July 24, 2012	January 21, 2013	177 (6 months)
L Band	December 7, 2007	May 6, 2008	149 (5 months)
10 GHz, 28 GHz, 32 GHz and 40 GHz	August 7, 2007	February 22, 2008	195 (6.5 months)
3G	November 1, 1999	March 6, 2000	125 (4 months)

21. If Ofcom were to wait for the resolution of the two merger investigations, we believe that it could still hold a combined auction before the end of Q2 2016. Phase 2 of the BT/EE transaction is expected to be finished before end-November 2015 [X]. This means that, by end-November 2015, Ofcom will be in a much better position to assess if there are any competition linkages between the mergers and the PSSR award. Observe that this is at least 2 months and more likely 4 months, before it could realistically schedule the first auction with a split award. At this point, if there are no competition linkages identified,

<sup>2</sup> Hausman, J. (1997), Valuing the effect of regulation on new services in telecommunications, Brookings Paper on Economic Activity, Microeconomics, 1-38.

<sup>3</sup> [http://stakeholders.ofcom.gov.uk/spectrum/spectrum-awards/prospective-awards/award\\_2010/?pageNum=3#in-this-section](http://stakeholders.ofcom.gov.uk/spectrum/spectrum-awards/prospective-awards/award_2010/?pageNum=3#in-this-section).

it could proceed to schedule a combined award in Q2 2016, which would provide sufficient time for the completion of both mergers (even if H3G/Telefónica is referred to Phase 2) and publication and consultation on the IM.

22. In summary, the delay associated with a combined award versus the first part of a split award is likely to be only a few months. Accordingly, the benefits will be small.

*Potential for innovation and new entry*

23. Turning to the second aspect of Hausman’s paper, it is important to consider the nature of the services that might use the available spectrum. A likely outcome is that all or most of the spectrum will be acquired by mobile operators, and used for additional mobile broadband capacity. [8<].

24. Therefore, to make the case that there are benefits from an “early release”, one would have to believe that the PSSR award will facilitate innovation and entry of new services. This is possible but the case looks rather weak:

- In the case of 2.3 GHz spectrum, the small size of the band and immediate availability of mobile handsets, implies that it will have higher value for incumbents, and new entrants are unlikely to be the winners of this spectrum. Therefore, 3.4 GHz spectrum is the only band where there may be merit in allowing earlier access.
- There is also a well proven “test and development” regime that allows for experimentation in the 3.4 GHz spectrum, rather than commercial exploitation. If new entrants wish to develop technologies at 3.4 GHz, rather than commercial services, then their needs are already addressed.
- If a delay of 6 months at most, is costly for an entrant, then it could pursue other options, such as acquiring spectrum at 1500 MHz or 3.4 GHz from Qualcomm and UK Broadband respectively.

25. In conclusion, it is only new entrants seeking to develop new business models with the 3.4 GHz spectrum that may be affected by a delay. The existence of such bidders is uncertain, the likelihood that they will acquire any spectrum is modest and the period of time for which their entry would be delayed would be short. We further believe that new entrants would also benefit from certainty as to the market structure going forward, as it may be relevant to their commercial model. So again, any benefits of an early award of some 3.4 GHz spectrum would be small.

*Impact of early release on auction revenues*

26. Another potential benefit of a split award could be the earlier release of revenues from the first part of the award for the Government. While Ofcom has no objective to raise revenues, it has a general obligation to obtain fair value for taxpayers. However, given the short duration of any delay associated with a combined award, any benefits from receiving revenues early will be minimal. Moreover, any such benefit

may be swamped by the risk of lower revenues overall if competition in the first auction is depressed as a result of uncertainty over the future market structure (see discussion of costs below).

**B. Potential costs from a split award are high**

27. In the May Consultation, Ofcom does not attempt to identify any costs associated with its proposal for a split award. We have identified four categories of potential costs, which we believe would be substantial:

1. Bidder uncertainty, leading to inefficient outcomes.
2. Low competition, leading to inefficient outcomes.
3. [X].
4. Low revenues and higher implementation costs.

*Bidder uncertainty*

28. A sequential process would introduce substitution and aggregation risks for all potential bidders in the auction, owing to uncertainty over the price and availability of spectrum in the second award. This may lead to bidder error and inefficient outcomes for the first award, with knock-on implications for the efficiency of the second award. For example, suppose that two bidders with high valuations overestimate their potential to secure spectrum in the second award and drop out of the first auction too soon. This may lead to the wrong bidders winning the first auction, with too little spectrum in the second auction available to satisfy the needs of the high-value bidders.

29. Across Europe, whenever two or more bands become available for mobile use, it is usual to award them as part of a multi-band auction. This reflects sound economic theory that allocative efficiency is likely to be maximised if bidders can manage substitution and aggregation risk (owing to substitutability and complementary between lots within and across bands) within a single auction. For Ofcom to depart from this orthodoxy, it would need to provide clear evidence that such concerns were unusually modest for these bands, and that there were off-setting benefits. Ofcom has not provided such evidence.

30. Ofcom's original proposal to award the two bands together in their entirety reflects recognition that spectrum within the two bands (and to a limited degree, across the two bands) are substitutable and complementary. Within bands, substitution and complementarities are very strong. Across the bands, 3.4 GHz is a substantially inferior substitute for 2.3 GHz, and the two bands are complementary to the extent that they may both be combined as capacity layers within a future LTE network. The existence of

these linkages across the bands is highlighted at various points in the May Consultation and also in various stakeholder responses.<sup>4</sup>

31. A direct comparison can be drawn with Ofcom’s award of 10 GHz, 28 GHz, 32 GHz and 40 GHz, which Ofcom sold in a single auction. The differences between these four bands in terms of their technical characteristics and usage options were, in our opinion, even greater than those between 2.3 GHz and 3.4 GHz, but Ofcom still concluded that there were strong benefits from selling them in a single simultaneous process, in order to help bidders manage substitution risk:

*“Sequential auctions create severe difficulties for bidders where lots are either substitutes or complements. In a sequential auction bidders must bid for one lot without knowing what the price of other substitutable or complementary lots will be. By contrast, a simultaneous approach can allow bidders to manage both substitution risk and, to some extent, aggregation risk (associated with complementary lots).”*

*“Given the substitutability of the lots in question, Ofcom has a preference for the simultaneous award of all lots across all bands.”*

32. Indeed, the uncertainty for bidders is exceptionally strong for the PSSR award because bidders do not know when or whether they will be able to bid for the spectrum included in the second award. [§<].

*Low competition*

33. A split award may also result in diminished competition in the first auction, again raising the likelihood of an inefficient allocation. A number of factors may depress participation:

- [§<].
- The prospective purchasers (BT and H3G respectively) are awaiting regulatory clearance for the mergers. Until the outcome of the competition authorities respective merger reviews are clear, their incentive to invest in spectrum will be diminished as their exact requirements for spectrum in the future will not be known.
- Until the merger situation is resolved, potential entrants face uncertainty over the future market structure of the mobile sector, which may be material to their business case. It is ambiguous if this could encourage speculative competition or lead to undue caution, but either way, the risk of poor bid choices and inefficient outcomes is greater.

34. [§<].

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<sup>4</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/2.3-3.4-ghz-auction-design/statement/statement.pdf> paragraphs 2.15, 4.7, 4.62, A4.3, A4.56, A4.125

[<del>]

35. [<del>].

36. [<del>].

*Low revenues and cost of preparing two awards*

37. Not only would a sequential award likely produce an inefficient allocation of spectrum, it would also be bad value for money for the taxpayer. Given the high risk of low or diminished competition in the first auction, owing to uncertainties related to the mergers, revenues may be significantly depressed. Ofcom’s own costs will also rise, as it now faces the possibility of having to run two auctions, with further rounds of drafting rules, consultation and auction software for the second award.

38. The PSSR award is an important precedent for the transfer of spectrum from the public sector to the commercial sector, linked to Ofcom’s policy of imposing annual fees on spectrum to reflect its opportunity cost. If competition in the PSSR award is depressed, leading to low prices that are below the true opportunity cost, this will set an unhelpful precedent for future efforts to free up inefficiently utilised public sector spectrum for new uses. This is another reason why the prudent approach is for Ofcom to delay the award until the merger situation is resolved.

**C. Ofcom should not pre-judge the outcome of competition investigations**

39. A key theme that emerges from our analysis of the costs and benefits of splitting the award is the risk of inefficient allocation. This, in turn, may have knock-on negative implications for downstream competition in mobile services, given the role of spectrum as a key input. In effect, by proposing to withhold some spectrum from the PSSR award, Ofcom is attempting to guesstimate what amount of spectrum it may need to hold back to address any future competition concerns. This approach is both unnecessary; because the costs associated with delaying the whole award until after the merger processes are resolved are small, and risky, because Ofcom may hold back the wrong spectrum or the wrong amount of spectrum and it creates uncertainty for market participants.

40. In this part, we set out the potential relationship between PSSR spectrum and any competition decisions related to the merger. We make two main points:

- It is not Ofcom’s role to contribute publically held spectrum to potential remedy packages for a merger, either in relation to:
  - the BT/EE transaction; or
  - the H3G/Telefónica transaction; and

- Ofcom should not take any actions that could be perceived as exposing market participants to double jeopardy by making a simultaneous but conflicting decision in relation to a merger.

41. Telefónica's preference is to hold a combined PSSR spectrum award as soon as possible after the completion of the two merger processes. We expect this to be in Spring 2016, by which time either:

- The competition authorities will have approved none, one or both merger(s), with or without remedies, and within that context Ofcom can make a free standing decision as to whether it would be consistent with its duties to hold back PSSR spectrum in light of market circumstances at that time; or
- In the event that either or both merger(s) will have been blocked, there will have been no change in market structure resulting from the relevant merger(s) warranting a change in Ofcom's plans to award the PSSR spectrum. In this case there would have been no more than six months delay.

42. A merger authority's decision to approve a merger means that it is satisfied that there are either no competition concerns, or that they are addressed through the remedies offered by the parties. Ofcom is not required to act at all in relation to merger effects of either the H3G/Telefónica merger, or the BT/EE merger.

43. Whatever Ofcom chooses to do with regard to its spectrum management powers is completely separate from the merger reviews and such a free standing decision would need to be sufficiently robust to withstand profound and rigorous scrutiny. We would expect there to be a new competition assessment performed by Ofcom taking into account the change in market structure, due consultation etc. This in itself would induce at least two years delay, so the evidential and social cost of embarking on such a project is substantially higher than delaying the PSSR award by up to six months.

44. In other spectrum policy decisions, Ofcom has sought to avoid double jeopardy for market participants, by not embarking on its own competition assessment; rather it would "*expect to follow the merger review findings*".<sup>5</sup> We believe that Ofcom has this expectation because it is very difficult to envisage an outstanding competition problem so large and obvious as to justify exercising its spectrum management powers, but not so substantial so as to warrant an appeal by Ofcom of the decision(s) to clear the mergers – the correct course of action if Ofcom is dissatisfied with the decision of the relevant competition authority (on which we note, it will have been closely consulted).

45. Given such uncharted territory and the precedent, the regulatory risks of such a process must be high. We now consider the implications of such a course of events on each merger process.

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<sup>5</sup> Ofcom, Mobile spectrum trading regulations, available at: [http://stakeholders.ofcom.org.uk/binaries/consultations/trading-900-1800-2100-statement.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/trading-900-1800-2100/statement/900-1800-2100-statement.pdf) paragraphs 3.18-3.19.

*Use of the PSSR spectrum as part of the “remedies” in the BT/EE merger*

46. At §3.10-3.15 Ofcom discusses, with very little detail, what the purpose would be for retaining spectrum for a later award, in some as yet undefined second process. At §3.11 Ofcom identifies that one of the “theories of harm” that may need to be addressed in either or both of the proposed transactions could relate to spectrum holdings. The use of the phrase “*not least in terms of resulting spectrum holdings*” suggests that Ofcom believes that that this theory of harm is highly likely to arise. We agree in the case of BT/EE.<sup>6</sup>

47. Importantly Ofcom goes on to say in this paragraph that:

*“the retained frequencies could be used as one tool (amongst others) to assist in addressing any competition concerns that may arise, or promote competition as appropriate. Spectrum held back from the award could, for example, help us to address concerns about overly concentrated holdings, if this proved necessary at a later date.”* (our emphasis).

48. If this is the proposed rationale for retaining spectrum then Ofcom fundamentally misunderstands its role in the merger clearance process. The competition authority responsible for merger control, be that the CMA or The European Commission, sets out the competition issues (if any) that are foreseen with a proposed transaction. **It is up to the parties to the merger to propose remedies to that competition authority which are sufficient to address the specific concerns which have been raised by that authority.**

49. If Ofcom has, by the time the CMA has articulated its views, decided what the overall spectrum holding restrictions will be in the market and whether none, some, or all of the PSSR spectrum is relevant, then it would be open to the CMA to take Ofcom’s decision on the PSSR award into consideration when determining whether the remedies offered by the parties are sufficient to address its concerns.

50. By issuing this consultation and muddying the waters in the way that it does at §3.10-3.15, Ofcom has potentially taken this option off the table for the CMA. In this response we highlight a wide range of issues that need to be addressed and which require further consultation. This takes any decision by Ofcom beyond the end of September, when we expect to see the CMA’s provisional findings and remedies notice to BT.

51. Any remedies offered by BT would be in the absence of any certainty over the rules of the PSSR award. If these remedies are rejected as insufficient in themselves, it is not open to Ofcom to chip in and help out the merging parties by making a decision on the PSSR award that removes the need for any further concessions by BT/EE.

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<sup>6</sup> It is difficult to envisage how the Telefónica/H3G transaction could give rise to concerns about spectrum concentration in a three player market, given that Telefónica/H3G’s combined holdings would be less than Vodafone’s and those of the combined EE/BT.

52. Ofcom's decision on the award is free standing and relates only to its duties to promote competition. Whilst we strongly believe that it needs to be informed by the theories of harm expressed in the BT/EE case, Ofcom's decision on the PSSR award cannot be informed by remedies offered by the parties if the offered remedies are not, of themselves, sufficient to address the CMA's concerns. It is not Ofcom's place to subsidise BT's transaction, by fashioning rules that reduce the amount of spectrum BT is required to divest.

*Using the PSSR spectrum to address competition concerns in Telefónica/H3G*

53. §3.11 could also be read as saying that Ofcom might wish to use the PSSR spectrum to offset any competitive issues arising from H3G's acquisition of Telefónica. If there are competition concerns arising from this merger it is up to the European Commission to determine them and if appropriate seek remedies from the parties. Remedies address the theories of harm that are of concern to The Commission.
54. Ofcom has made regulatory decisions in the past with significant ramifications – not least reserving spectrum at discounted prices for H3G – on the back of a statement that Ofcom would rely on merger decisions in determining the future wholesale market structure in the UK.<sup>7</sup> To go back on that decision now would seriously undermine Ofcom's reputation and the ability of stakeholders to rely on its regulatory decisions going forward. Any justification for seeking to take steps to change the market structure approved by the merger authorities would need to be sufficiently robust to withstand profound and rigorous scrutiny. Market participants have a legitimate expectation that Ofcom's 2012 auction decision still holds – it is up to the merger authorities to determine the optimal market structure.

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<sup>7</sup> Telefónica UK response to Public Sector Spectrum Release (PSSR), Ofcom consultation on the award of the 2.3 GHz and 3.4 GHz bands, January 2015 paragraph 96: "In the PSSR consultation, Ofcom summarises its position that UK consumers benefit from having four national wholesalers of mobile services. This summary is not precisely what Ofcom stated as its position during the consultation process leading up to the 2013 auction. During that process, Ofcom did accept that a three-player market might be in consumers' interests in the future. Importantly, Ofcom felt that this transition was better managed through the merger control process than happening *de facto* in a spectrum auction: *"the risk of regulatory failure associated with promoting at least four national wholesalers in the Auction is mitigated since, if the market evolves in a way that means it would in fact have been in consumers' interests to have fewer national wholesalers, this can, at least in part, be addressed later through, for example, market consolidation. This could be subject to scrutiny under merger control or a competition assessment of the trade at that time as appropriate. By contrast if measures are not put in place in the Auction to promote four credible national wholesalers such that only three national wholesalers emerge and this is shown not to be in consumers' interest, then it would be much more difficult to change this position to increase the number of national wholesalers in the future."*

55. Putting these legal hurdles to one side, we can also see why such a move by Ofcom would have a number of unattractive aspects:

- (1) If the Commission finds that there are no competition issues arising from the merger, Ofcom would need to demonstrate that the Commission's decision approving the merger was in error. The way to do that would be through the Courts, not through *ex ante* intervention. "Two wrongs do not make a right" – so to speak.
- (2) If the Commission accepts remedies from the parties as sufficient to address its competition concerns, then there are no additional concerns that Ofcom would need to address in its own decision making. Any remedy package would return the market to a competitive level such that consumers are not adversely affected. Again, Ofcom would need subsequently to prove the European Commission's decision was in error in order to proceed – the way to do this is through the Courts, not through its own decision making.

(3) [X].<sup>8</sup>

*The need for evidence in order to justify ex ante intervention*

56. The existence of a given number of players on a market is not of itself sufficient evidence to warrant *ex ante* intervention. In this regard we note BEREC's most recent report on oligopoly markets and their characteristics, to which we assume Ofcom subscribes, where the collective of European national regulatory authorities states:

*"Generally, a market with an oligopolistic structure does not necessarily point to regulatory intervention. Moreover, the number of players in the market alone does not provide sufficient evidence of whether a market is competitive or not. Instead, the dynamics of competition determine whether an oligopoly leads to an efficient market outcome; market dynamics are identified by a combination of several indicators, such as price, quality and product diversity."<sup>9</sup>*

57. Indeed, a proper study of market conditions in 2020 might well conclude that:

*"effective oligopolistic competition delivers an optimal outcome in terms of total welfare, at least in the long term. It can be observed when benefits from increased innovation and investment incentives outweigh higher prices, or actual or potential competition limits the oligopolists' power to raise prices above a competitive level."<sup>10</sup>*

<sup>8</sup> [X]

<sup>9</sup> BEREC Report on oligopoly analysis and regulation, 26 May 2015, p15, available at: [http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/5042-draft-berec-report-on-oligopoly-analysis-and-regulation](http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/5042-draft-berec-report-on-oligopoly-analysis-and-regulation).

<sup>10</sup> Ibid, p15.

58. It is Telefónica's view that any future market analysis by Ofcom would need to take place a number of years after the mergers had been approved, in order to allow a sufficient evidence to emerge in order to inform any future analysis. Such a delay would add further 'costs' to any decision to delay the award of spectrum, pending outcome of such a study.

*Ofcom's powers to intervene are of limited relevance to merger authorities*

59. It would not be appropriate for Ofcom to make representations to the merger authorities that it could remedy any longer run merger impacts on the market using its *ex ante* powers, i.e. problems that might arise beyond the time horizon (typically three years) addressed in the merger decision.

60. Ofcom has suggested to us that this is what happened during a merger process in The Netherlands in 2007, where a four to three merger was approved, only for this to be reversed in an auction of spectrum reserved for new entrants in 2012. The available documentary evidence does not support this contention. We find no reference to such representations in the relevant merger decision.<sup>11</sup> The public version of The Commission's decision indicates that this particular four to three merger would have no negative impact on competition and was approved on that basis.

61. In line with the points on timing we make above, it is not until 2010, i.e. well after the Dutch merger is cleared unopposed, that the Ministry of Economic Affairs began preparing for the expiration of the existing telecommunications licences (GSM) and the award of the 800MHz band. It commissioned a study by PwC into options for that award.<sup>12</sup> In that report, PwC states:

*"Continuously promoting competition and lowering of barriers to entry are key elements of the strategic vision of the Dutch Ministry of Economic Affairs, Agriculture and Innovation (throughout the report referred to as "EL&I").*

*To support policy making regarding the new frequency distributions, OPTA conducted an analysis of the mobile market in the Netherlands and concluded that whilst there is currently no collective dominance, there is a risk of tacit collusion. As a result (collective) significant market power can arise subsequent to the upcoming spectrum awards. Spectrum policy should therefore be aimed at facilitating potential entry.*

*OPTA recommends EL&I to take measures to facilitate potential entry in the market and to lower barriers to entry in the coming spectrum awards. These measures are necessary to increase the market dynamics and to lower the risk of collusion.*

*In the consultation document regarding the strategic vision for mobile communication, EL&I sets out the main elements of their new strategy for the mobile communication market: continuously*

<sup>11</sup> Available at: [http://ec.europa.eu/competition/mergers/cases/decisions/m4748\\_20070820\\_20310\\_en.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m4748_20070820_20310_en.pdf)

<sup>12</sup> Available at: <http://www.rijksoverheid.nl/bestanden/documenten-en-publicaties/rapporten/2011/02/11/quick-scan-spectrum-awards-in-the-netherlands/2010-12-06-min-el-i-quick-scan-spectrum-awards-final-stc.pdf>

*promoting competition and lowering of barriers to entry. EL&I considers the facilitation of a new entrant to be the best way to achieve effective competition in the market.”<sup>13</sup>*

62. What is clear from this text is that, once the merger was cleared, the NRA waited some time until conducting a market review to analyse the real impact on the market. It was only in light of the evidence collected that the relevant authority decided that it was appropriate to promote competition by reserving a new entrant licence, because of problems it foresaw in the future, not because of conduct observed in the period 2007-2010.

#### **D. No sensible way to split the spectrum**

63. An obvious omission from the May consultation is any proposal from Ofcom regarding what bands and what amount of frequencies it would hold back from the first award. We have considered this and cannot identify any sensible approach for splitting the bands.

64. Ofcom argues that a key rationale for an accelerated award is to bring valuable spectrum to market as soon as possible. 2.3 GHz is evidently more valuable than 3.4 GHz and is the only one of the two bands that can be immediately deployed for LTE. This would suggest that its sale should be prioritised. On the other hand, if Ofcom has in mind holding back spectrum to address future competition concerns, then the 2.3 GHz band is the obvious choice. [3<].

65. For MNO bidders, 3.4 GHz may be characterised as an inferior substitute to 2.3 GHz for LTE capacity. Economic logic suggests that the two bands should either be sold together, or that the inferior substitute should be sold second, so as to at least moderate substitution risk. If 3.4 GHz were sold first, bidders who prefer 2.3 GHz would have huge difficulty determining whether to even bid for 3.4 GHz and at what price they should walk away. But, as previously discussed, selling 2.3 GHz before the merger situation is resolved would risk a grossly inefficient outcome.

66. For all these reasons, it is even harder to determine how much spectrum in one or both bands might be held back. On the one hand, the greater the quantity of spectrum withheld, the greater the substitution risk for bidders participating in the first auction and the greater the likelihood of inefficient outcomes. On the other hand, the less spectrum that is withheld, the greater the risk that low participation in the first auction undermines efficiency and revenues.

67. Fortunately, there is an easy solution. All these concerns go away if Ofcom simply proceeds on the basis that it will run a combined award, but postpones the auction start date until after the merger decisions have concluded. At this point, both Ofcom and potential bidders will have better information about the market structure and state of competition in the market, and Ofcom will still have the flexibility to consult

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<sup>13</sup> Ibid, p2.

again on its approach to the auction, for example with respect to the spectrum included in the award or spectrum caps, as appropriate.

## Section 3

### AWARD PROCESS AND AUCTION DESIGN

#### A. Choice of auction format

69. Telefónica supports Ofcom’s conclusion that the SMRA is the appropriate format for this award.
70. Ofcom has proposed a bespoke version of the SMRA with generic lots for this award. Although the approach to identifying standing high bids (SHBs) and managing price increments for generic lots is novel, the format appears to us to be well thought out and to be an effective way of dealing with a situation where all lots within a band are de facto perfect substitutes. Our overall assessment is positive, and we urge Ofcom to press ahead with this format.
71. Our comments and suggestions on specific aspects of the rules are set out below.

#### B. Principal stage auction rules

##### *High bidder ranking rules*

72. Telefónica generally welcomes the changes to the rules on bidding for lots when the bidder holds standing high bids, at §A5.43. The changes address specific flaws that were present in the previous version of the rules.
73. We note that §A5.43 implies that a bidder who has standing high bids in a band, and who has demand at the next round prices, cannot reduce demand in response to the price increase. This is potentially very constraining unless price increments are kept at a reasonable level (see further comments on price increments below).
74. As an example, suppose a bidder is standing high on two lots in a band and is approaching his valuation but the auction is also close to ending. Suppose that the bidder’s demand at the next price level is for only one lot. He has a strong incentive to maintain demand for two lots until outbid, but this may mean that he misses out on the opportunity to bid at the next price level, and may ultimately have to pay a further bid increment or even lose out completely. It may also be that if the bidder had been allowed to raise only one of his two bids, he would still have been within valuation for two lots.
75. Ofcom’s argument for denying a bidder the option to raise demand in the case described above is not sufficiently substantiated. §A4.156 simply states that “*Allowing bidders to place bids at the round price while maintaining standing high bids at a previous round price, facilitates strategic demand reduction. Bidders might be able to test demand in order to assess the benefits of reducing demand strategically.*” It is not clear to us what additional information can be gained from such a manoeuvre, relative to simply maintaining all standing high bids at the previous round price.

76. Notwithstanding these points, we do not necessarily oppose the rules as proposed by Ofcom. However, to ease the constraints on bidders and minimise the risk of inefficient bid decisions, Ofcom should use small price increments. We expand on this point below.

77. We also note that §A5.49 reads “*the round price for a lot category will increase if the number of standing high bids in that category with a price that is equal to the round price in the most recent round is equal to the total number of lots available in the category*”. Presumably Ofcom intends to increase the round price when the number of standing high bids is greater than or equal to the total number of lots (rather than just equal to).

#### *Price increments*

78. Ofcom’s approach to increasing round prices is laid out in §A5.51, which states that price increments will be “*no less than 2% and no more than 20%*”. Telefónica believe this interval is too wide and price increments should be capped at a lower level. Specifically, we propose the following caps on price increments:

- price increments will be no more than 5% of the previous round price; and
- price increments will be no more than 10% of the opening bid price (reserve price).

79. We believe that this approach, which places an absolute cap on the level of price increments in UK pounds, would provide a better balance between maintaining the pace of the auction and giving bidders certainty over potential price increases. It is our understanding that an analogous methodology for capping price decrements will be adopted for the US Incentive Reverse Auction and we strongly urge Ofcom to consider following suit.<sup>14</sup> This avoids the common flaw in competitively SMRA auctions that absolute price increments become excessively large, to the extent that price outcomes may vary materially across bidders and bidders may have incentives to game the increment process.

80. We note that Ofcom acknowledge the need for “*appropriate price increments*” in §A4.56 in order to limit price overshoot, and in §A4.160 in order to limit any difference in final prices paid in the same band. In addition, we would like to reiterate the need for appropriate price increments in order to minimise the adverse effects of disallowing bidders to place bids at the current round price while maintaining standing high bids at a previous round price, as discussed above.

#### *Pricing rule*

81. In our previous response we noted that under the proposed rules, it is possible that the auction could end with some bidders having all their winning bids priced at the current round price, and others having all their winning bids priced at the previous round price. This could mean that the difference in the

<sup>14</sup> See FCC Public Notice, FCC 14-191, December 17, 2014. Paragraph 105.

aggregate sum paid by winning bidders for equivalent spectrum is substantial and rather more than is typical in the standard SMRA, where bidders buying multiple lots often finish on a mix of higher and lower priced lots.

82. As a simple alternative, we asked that Ofcom consider applying a uniform price for all bidders in the same band, based on the lowest winning bid amount. This rule is fair and it would also eliminate possible incentives for tactical bidding behaviour aimed at finishing the auction at a lower price than rivals.
83. Ofcom's rejection of this proposal (§4.76) is based on the assertion that it would change the nature of the SMRA: "*The SMRA is a pay-as-bid format, where bidders commit to pay their winning bids*". Ofcom further argues (§A4.159) that changing the pricing rule to uniform pricing might introduce inefficiencies and unhappy losers owing to the fact that bidders who placed bids at a lower price, but were not selected as standing high bidders, might have been willing to acquire spectrum at the final price but failed to do so because they did not want to place a bid at a higher price.
84. Ofcom's arguments against uniform pricing are over-stated. Our proposal is analogous to the second price rule from a CCA where all bidders pay the highest price bid by the strongest losing bidder. The possibility that there could be unhappy losers only arises to the extent that there may be large price increments, and a losing bidder might have been willing to pay an amount in between the current and previous price. Likewise, any risk of inefficiency associated with a bidder deliberately bidding through a budget limit in the hope that their price comes down (which seems a rather unlikely approach) scales with the size of the price increments. Ofcom's fairness argument makes no sense to us: in the context of an SMRA, it is hard to understand why bidders should begrudge someone else paying the same amount per unit for identical spectrum, and very obvious why bidders might be upset if they are obliged to pay more per unit for the same thing. [8<].
85. The SMRA format proposed for the PSSR award is de facto a hybrid auction format that borrows some features of the clock auction. Ofcom's comment that a uniform price rule would "*change the nature of the SMRA*" is meaningless, given the radical changes that it has already proposed. Accordingly, we see no issue with also borrowing the uniform price rule from the Clock Auction. This would be an enhancement that promotes fairness of outcome with minimal implications for efficiency.
86. Whether or not Ofcom maintains the pay-as-bid pricing rule or switches to uninformed pricing, the points that we raise here and that Ofcom has raised in the May Consultation, should serve to reinforce our argument that Ofcom should commit to using small price increments, with a cap on the absolute amount in UK pounds (e.g. based on a percentage of the reserve price) that the price per lot can rise each round. Our concerns regarding fairness and Ofcom's concerns about inefficiency, both scale with the size of the price increments. Ofcom's new format will work best if run with many, frequent rounds and small price increments.

*Eligibility points*

87. We recognise that setting eligibility points is more an art than a science, and it is quite difficult for bidders or the regulator to identify the optimal approach. However, our view is that Ofcom's proposed change in eligibility point ratio (§4.66) between 2.3 GHz and 3.4 GHz spectrum is acceptable, and a 2:1 ratio is more in line with the likely value difference between the bands than the previous 1:1 ratio.

[X]

88. [X].

89. [X].

90. [X].

91. [X].

### C. Assignment round

92. Telefónica supports Ofcom’s proposal for a sealed bid, single round format with a second price rule for the assignment stage. The rules are essentially the same as those used for previous Ofcom auctions in which abstract lots were awarded in the principal stage. This is a tried and tested approach for converting generic lot allocations to contiguous frequency assignments and we support its continued use for this award. We also support Ofcom’s proposal regarding the placement of unsold lots and its approach for including UK Broadband 3.4 GHz holdings in the assignment stage, should it decide to participate in the auction.
93. However, with 10MHz blocks (see §A.4.117-119), we suggest that Ofcom consider amending the assignment rules such that bidders winning smaller amounts of spectrum are placed adjacent to each other. As an example, at 2.3 GHz, if the spectrum is split 20:10:10, there is a possibility that the two bidders winning 10 MHz may want to trade or share the spectrum in the future. If Ofcom does not guarantee adjacency of smaller amounts of spectrum, there is a possibility that a winner of 20 MHz could have strategic value to bid to place itself in the middle and block such trading or sharing arrangements by the other winners.

### D. Reserve prices

94. Telefónica has concerns about Ofcom’s approach of setting “high” reserve prices (§4.99- 4.114). Ofcom has proposed using an SMRA format and expressed concern that low reserve prices could provide incentives for bidders to tacitly collude. We see this risk as low (assuming Ofcom proceeds with a combined award after the two merger processes are resolved) given the evidence of strong demand for PSSR spectrum and the asymmetric structure of spectrum allocation in the UK, even after completion of the mergers. We also note that Ofcom has proposed other measures, such as limited transparency, which make tacit coordination more difficult. We believe such measures are sufficient to ease concerns regarding strategic demand reduction. There is no case to setting higher reserve prices than those proposed in Ofcom’s first PSSR consultation.

## Section 4

### TECHNICAL ISSUES

#### A. UK Broadband and contiguity

95. Telefónica supports Ofcom's decision regarding contiguity of spectrum in the 3.4 GHz band.

#### B. Technical coexistence issues

96. Telefónica supports Ofcom's decisions regarding coexistence between LTE in the 2.3 GHz and 3.4 GHz bands and existing users of neighbouring frequencies. Ofcom's findings are consistent with those contained in the Telefónica commissioned OptiWi-fi report, which suggested that interference from TD-LTE is unlikely to significantly affect Wifi customers in practice

#### C. Non-technical licence conditions

97. Telefónica supports Ofcom's decisions regarding non-technical licence conditions.

#### D. Technical licence conditions

98. Telefónica supports Ofcom's decisions on technical licence conditions. In particular we agree that Option 2 is most appropriate for the 2.3 GHz band, primarily due to the smaller bandwidth available. For 3.4 GHz, we agree that Option 1 is more suitable, as the greater quantity of spectrum means that the use of guard bands will not unreasonably reduce the efficiency of the band. For both bands, we support 3:1 as the 'preferred frame structure'.

## ANNEX I

### RESPONSE TO CONSULTATION QUESTIONS

99. Please find here our responses to the specific questions raised in the PSSR consultation document:

*Question 1: What are your views on our proposal to introduce the option of holding back some of the spectrum from the auction?*

100. Telefónica opposes the proposal to move forward with an auction of any of the available spectrum before the current industry mergers are completed. It is inappropriate for Ofcom to consider holding back a portion of the spectrum until the relevant competition authorities have completed their investigations. We believe that Ofcom should instead continue its current approach of preparing a combined award of all spectrum in both bands, so that it is ready to auction the spectrum, or otherwise take appropriate action, as soon as the mergers are complete. For a more detailed explanation of our views, please see Section 2 of this response.

*Question 2: Do you have any views on an appropriate amount of spectrum to hold back to allow sufficient flexibility to address potential competition concerns? Please explain your reasoning?*

101. We have considered this and cannot identify any sensible approach for splitting the bands. Please see our answer in Part D of Section 2 of this response and supporting arguments in Parts A through C of the same section.