

TELEFÓNICA UK LIMITED RESPONSE TO:

**“Mobile Phone Repeaters:
Indoor and in-vehicle”**

NON-CONFIDENTIAL VERSION

June 2017

I. INTRODUCTION

1. Telefónica UK Limited (“Telefónica”) welcomes the opportunity to respond to Ofcom’s consultation on Mobile Phone Repeaters: Indoor and in-vehicle¹.
2. Telefónica is aware of the high priority that Ofcom attaches to mobile coverage and we fully appreciate that customers’ expectations, including in relation to coverage, are increasing over time, which is why Telefónica is committed to improving network coverage for all its customers using a variety of solutions and initiatives.
3. In the UK, Telefónica has an investment programme of £3bn over a four year period and continues to invest over £2 million per day broadening the network coverage footprint and delivering the best connected experience for its customers.
4. Telefónica’s 4G network continues to grow in both urban and rural locations and is available to its customers in 13,539 towns, cities and villages across the UK and we continue to upgrade our 2G and 3G networks and roll out 4G as part of our five-year modernisation program.
5. We are also supporting better coverage through initiatives such as O2 Wi-Fi which provides over 15,000 hotspots to our millions of registered users, independent of any network subscription, with O2 customers having the ability to connect to over 4,500 of those hotspots automatically without even registering.
6. In March 2017, we switched on Wi-Fi and 4G calling. Wi-Fi calling² gives our customers the option of making and receiving calls over Wi-Fi even if they can’t connect to their network, whilst 4G Calling³ provides our customers with clearer calls and better indoor coverage over our fast 4G network. Both of these work together to provide a seamless, uninterrupted experience and less dropped calls when moving between the two.

¹https://www.ofcom.org.uk/_data/assets/pdf_file/0017/100277/Mobile-phone-repeaters.pdf

² Wi-Fi calling is eligible on the following handsets: iPhone 7, 7 plus, 6s, 6s Plus and SE, as well as Sony Xperia XZ Premium and Samsung Galaxy S7 and S7 edge.

³ 4G calling is currently available in London, Leeds, Slough, Belfast, Bradford, Coventry, Edinburgh, Leicester, Liverpool, Newcastle, Nottingham and Sheffield.

7. These initiatives along with our continued investment, demonstrate that our focus has been, and continues to be, on improving both coverage and quality to provide our customers with the best possible service.

II. GENERAL COMMENTS

8. Telefónica has engaged with Ofcom at various stages over the past three years in relation to the issues surrounding the use of mobile repeaters and has previously set out its significant concerns in its response to Ofcom's call for inputs on the subject in 2014⁴. These concerns include the significant interference risk that they pose which potentially degrades service for other customers, the risk that uncoordinated deployment potentially compromises the careful design and operation of an ever more complex mobile radio network, and the fact that existing regulation has been designed to protect mobile operator's networks from undue interference for the benefit of customers; hence why these rules should be maintained in order to avoid consumer harm.
9. Most recently, since the publication of Ofcom's statement in March 2016, which set out a recommendation for a way forward for the future use of mobile repeaters⁵, Telefónica has continued to engage with Ofcom and expressed its concerns, both in writing and via a series of meetings, around the approach taken by Ofcom with respect to the proposed legalisation of mobile repeaters, explaining the risks that legalisation poses to customer experience. These concerns include the risk that performance degradation will increase through the uncoordinated use of poor quality repeaters, but also that even good quality repeaters, if poorly installed, or installed in high volumes in close proximity, also risk degrading the service experience of our customers. It is for these reasons that Telefónica expressed the clear view to Ofcom that legalising the use of such repeaters would be damaging. Telefónica is disappointed that Ofcom has seemingly failed to acknowledge the

⁴ Telefónica UK Limited response to: "Mobile Coverage Enhancers and their use in licensed spectrum, August 2014

⁵⁵ https://www.ofcom.org.uk/_data/assets/pdf_file/0031/68737/statement.pdf

concerns that it has raised and has instead pressed ahead with its proposals regardless.

10. Telefónica has made it a clear priority to put its customers at the heart of its decision making and activities, with this foremost in our mind, we have serious concerns that Ofcom proposals, whilst well-intentioned, are ill thought out and could lead to disruption to the high quality service which we take pride in striving so hard to provide to our customers. Ofcom's current proposals will also lead to additional operational and maintenance complexities for Telefónica which will delay our ability to resolve network interference issues causing unnecessarily prolonged degradation of services for our customers. For these reasons, we cannot support Ofcom proposals as outlined in this consultation.
11. Telefónica is also concerned that, in the current consultation, Ofcom has not followed its own guidelines to policy making and approach to impact assessments. In the consultation, Ofcom states that specific aspects of its impact assessment are contained in Annex 4 and that the analysis presented in the document as a whole, constitutes Ofcom's overall impact assessment. Yet Ofcom has not sought to identify or quantify any potential costs to MNOs as a result of the proposal and has not conducted a resulting cost/benefit analysis and has therefore failed to demonstrate that the benefits of the proposal outweighs the costs.
12. Telefónica therefore remains concerned that Ofcom has not given due consideration, from the customer perspective, of the issues we have raised and has instead, simply created a new specification supporting proposal, allowing residential repeaters which are compliant to be legally used in the UK. To be clear, we do not support this approach, yet, in good faith, Telefónica, along with other MNOs, have attempted to assist Ofcom by setting out a high level hardware functionality which the specification should deliver and have stated a prerequisite to register the repeater location. We discuss this and other aspects in the next section of our response.

III. PROPOSALS FOR STATIC INDOOR REPEATERS

Proposed specification

13. Whilst the proposed specification contained within Ofcom's consultation improves upon previous versions, if the expectation is that potential manufacturers will use this as a basis for their product, then there are several elements missing, including:
- Self-diagnosis and shut down in the event of hardware fault;
 - O&M functionality;
 - Automatic lock down when the donor signal reduces by x dB (with the value of x to be agreed), for a short period of time, to assist with fault finding (i.e. this would be a means for an operator to remotely shut down a repeater in order to fault find);
 - Automatic lock down if donor signal significantly increases, to x dB (with the value of x to be agreed) indicating a new macro site in the area (i.e. user is able to assess whether the macro site is now sufficient);
 - There is no mention of RF safety, this should be referenced.

Residential Use

14. Telefónica believes that Ofcom needs to be clearer in stating that the static indoor repeaters are intended for residential use only. Whilst it is alluded to in the body of the document, this needs to be explicit. The current headline description of "indoor" leaves open the possibility of mis-use in the form of multiple devices being deployed into an office, industrial unit, hotel, university etc. We note that in the consultation, Ofcom has made reference to the collective impact of multiple devices within a single sector footprint.

Testing and Enforcement

15. Telefónica remains concerned that if such repeaters are legalised for use, it could, absent a robust technical testing process and pro-active enforcement activity, result in some suppliers being tempted to engage in sharp practices such as labelling devices approved by Ofcom, irrespective of whether they actually meet the required specification.
16. Telefónica believes that use of such devices under a licence exempt regime would result in a significant increase in the occurrence of interference to mobile operator's networks and this would, ultimately, result in an increased burden on Ofcom as a result of interference investigation and enforcement activity. Telefónica is therefore surprised that there is no apparent acknowledgement from Ofcom that enforcement

activities will become more complex and time consuming and hence the impact to multiple users is likely to be longer from the start of the issue until resolution.

Approval/certification

17. Whilst Ofcom refers to specifications that potential manufacturers will need to adhere to, there is no information on how approvals / certification will be achieved; Telefónica assumes that this will not simply be self-certification. Furthermore, Telefónica would expect that Ofcom enforces certification of any devices that manufacturers claim to meet the agreed technical specification agreed, this includes ICNIRP / EMF safety - especially important where devices are installed in residential properties.

Registration

18. Telefónica has consistently expressed the strong view that any repeaters authorised for use should be required to be registered in order that the MNO is able to identify where any repeater is located, as is the case currently with any repeaters that are pre-authorised by MNOs. Telefónica is of the firm view that this is a **mandatory requirement** for all mobile repeaters.

IV. PROPOSALS FOR LOW GAIN IN-VEHICLE REPEATERS

19. Telefónica notes that this was not an area that was extensively discussed in the meetings between Ofcom and MNOs. Telefónica is concerned that policing this area could be a real problem and suggests that Ofcom exercises a level of diligence on how these devices are approved for use in UK vehicles. One measure could be to limit the right to install such devices in vehicles to the car manufacturers, in order to retain a level of understanding where they have been installed and the ability to manage potential issues.