# “Mostly Mobile”

*BT’s response to Ofcom’s second mobile sector assessment consultation of 8$^{th}$ July*

16 September 2009

BT welcomes comments, which should be sent by e-mail to
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# *Executive Summary*

BT is very disappointed that, after an eighteen month-long consultation process, Ofcom remains of the view that the mobile sector is working satisfactorily and does not warrant the same kind of scrutiny to which Ofcom has subjected the fixed sector in the past. Even without the recent announcement of a joint venture between two of the main network operators, BT was of the view that the mobile sector was falling short of delivering the optimum competitive outcomes for end-users, and moving in the direction of consolidation through network-sharing deals. The prospective joint venture holds out the very realistic prospect of establishing an effective duopoly in the sector between, on the one hand, *Vodafone* and *Telefónica/O₂* (which announced a pan-European network sharing agreement earlier this year), and the remaining three operators on the other (given the existing joint venture between *T-Mobile* and *3* in network sharing). We very much share Ofcom’s concern that “consolidation may have a detrimental effect on competition, and therefore have ramifications for price competition and network access”.

We acknowledge that Ofcom is required to play a subsidiary role to the Office of Fair Trading in merger cases, but nevertheless would draw attention to Ofcom’s more general *ex ante* powers to deal with the significant lessening of competition we are witnessing in the mobile sector. We would therefore find it surprising if Ofcom were to close its own assessment of the mobile sector at the same time as the market is undergoing significant consolidation which, as Ofcom recognises, has the potential to result in anti-competitive effects. This is particularly the case given that statement Ofcom makes on page 16 that its vision for the mobile sector “can best be achieved by a market that exhibits a high degree of network and service competition”.

At the outset of the Mobile Sector Assessment, we were led to expect that it would be a significant and wide-ranging analysis of the market - in fact, a proper Strategic Review in all but name. The first consultation talked of the mobile sector as a ‘challenging place’ for new entrants; of the fact that not all consumers had benefitted to the same degree from mobile services; and of the need for regulation to change in response to trends such as convergence. We find, however, that far from seeking proactively to challenge the surface appearance, Ofcom appears to have settled for a limited set of proposals that seem unlikely to change the sector to any noticeable degree. The only substantive outputs from the MSA itself are a commitment to be more active in number portability and interconnection matters, and a reiteration of a consumer policy framework already set out for all market sectors. The effects of these refinements to Ofcom’s approach seem unlikely to deliver any significant improvement to the services that consumers will receive, and certainly fall far short of the sort of benefits in new and innovative services that a fully competitive market, with lower entry barriers to facilitate new competitors, could be expected to deliver. It is noteworthy that the most significant recent innovation seen in the mobile sector has come from *H3G*, the last new entrant and one which benefitted from regulatory assistance to facilitate its market entry. With the imminent market changes, there is a risk that *H3G* will become sub-scale and unable to exert the same degree of stimulus in a market of three much larger players.

Despite the mobile network operators' assertions to the contrary, competition in the mobile sector is not working well. This is clearly evidenced by the fact that the main operators have together retained around 90% of the market, sharing out minor shifts in subscription numbers between them across the last five years. This is an oligopoly as damaging to consumer interests – in terms of repressed innovation and higher costs (the UK does not feature in the top ten of lowest-priced European mobile baskets according to the OECD) – as the monopoly in the fixed sector before BT was regulated and the market liberalised. In fact, it is arguably *more* damaging because the convergence of fixed and mobile services can happen only on the mobile network operators' terms, given the degree of *ex ante* regulation in the fixed sector - BT would anticipate opportunities for innovation being missed unless operators in both sectors are able to compete on an equal basis. And given the prospective consolidation in the UK market, that oligopoly is about to become even more concentrated: given that *Virgin Mobile* customers are hosted on the *T-Mobile* network, the joint venture will result in almost half of all mobile subscribers being served from one network (even before the network-sharing arrangement with *H3G* is taken into account); and *Orange* and *T-Mobile* alone will account for a third of all voice 'lines' – that is mobile <u>and</u> fixed.

As Ofcom described in the first MSA consultation, the mobile sector is now larger by revenue than the fixed and broadband sectors combined, with mobile the most pervasive of technologies and the fastest-growing. This is a significantly different picture from that which existed during the last regulatory review of the mobile call origination market in 2003, and is almost unrecognisable from the market that Oftel assessed in its Effective Competition Review in 2001 – the last comprehensive regulatory assessment. BT believes that Ofcom has a responsibility to subject the mobile sector at a minimum to the rigours of a market review which encompasses the gamut of relevant competition tests (rather than selected criteria, as has been the case in the MSA project) or preferably to a full Strategic Review. While Ofcom appropriately ensures that market power in the mobile voice call termination market is subject to periodic review, we understand Ofcom's responsibility to extend much wider than just the markets identified in the European framework as susceptible to *ex ante* regulation.

Given its proposal not to pursue a more proactive course, we are concerned that Ofcom will now effectively close down the MSA project. In BT's opinion, this would be a mistake, particularly in the light of the imminent reduction in the number of mobile network operators in the UK which seems to put at risk Ofcom's own vision for the sector. We continue to believe that Ofcom should embark on a fundamental reappraisal of the need for regulation of the mobile sector while there are still operators with sufficient ability to inject further competition into the sector. It would seem particularly inappropriate for Ofcom to close down this project at the same time as the mobile sector is about to undergo the first structural change since the arrival of *H3G* in early 2003. We would request that Ofcom starts work on a market review, the logical third stage of the MSA project in any case, as soon as possible. At the very least, it seems incumbent upon Ofcom now to examine whether a market of, effectively, two large blocks of competitor, continues to satisfy its vision for the future.

# 1 Introduction

The structure of our response follows that in Ofcom's consultation document and we seek to answer Ofcom's 15 questions (in red below) accordingly.

# 2 Ofcom's regulatory principles

*Q2.1 Do you agree with our principles for mobile regulation?*

These are reasonable principles, but, as Ofcom itself seems to acknowledge, they are nothing new, and it is not clear why regulatory principles for the mobile sector should be any different from those for other communications sectors, and in particular why they should be different from those applicable to the fixed sector.

We would also find it helpful to know how large Ofcom considers its canvas to be when it talks of acting 'with a view to the bigger picture'[1]. The context suggests that the scope is limited to the mobile sector. Indeed, the whole assessment to date has been limited to the mobile sector, with little or no consideration of the inter-relationships with other sectors nor any particular reference to the wider backdrop of convergence. In circumscribing its outlook in this way, there is a risk that Ofcom has failed to notice any damage being done today to the competitive landscape of the future.

# 3 The changing market environment

*Q 3.1: Are there any additional sector trends that we should consider in our analysis?*
*Q 3.2: Have we identified the right regulatory challenges?*

The most important trends for Ofcom to monitor are **convergence** (especially, but not exclusively, in relation to termination) and **consolidation** (both RAN-sharing and wider merger/joint venture/network sharing moves) as these will pose the biggest regulatory challenges. Ofcom seems at least alert to the risks of consolidation and we will be interested to learn what action it proposes to take in the light of the imminent joint venture announced in the sector. The reduction to what might effectively be a network duopoly, is reminiscent of the early days of mobile, when regulation to guard against market abuse was imposed (requiring, amongst other things, Vodafone and Cellnet to operate through a network of service providers – a requirement relaxed following the entry of additional network operators); Ofcom may care to consider whether that framework has any lessons to offer. However, it is far from clear that Ofcom is prepared for the challenges of fixed-mobile convergence.

Mobile phone services are an increasingly influential commodity whose relationship to fixed line services is rapidly maturing. Certainly in terms of voice services, mobile networks are practically indistinguishable from fixed Next Generation Networks (NGNs) in functionality. With increasing fixed-mobile convergence, the differing regulatory treatments of fixed line and

[1] Ofcom's third strategic principle (paragraphs 1.15 and 2.23)

mobile become increasingly asymmetric and, as a result, disadvantage fixed-line operators and distort the market. In BT’s view, Ofcom’s consultation pays insufficient attention to the impact fixed-mobile convergence will have on regulation, addressing solely the question of mobile termination rates in this context. The wider absence of a level playing-field, given the weight of wholesale regulation in the fixed sector, is arguably more important in relation to convergence, certainly in the longer term. Ofcom says it will “need to be ready to adapt our approach to ensure competition remains – to the maximum extent that it is feasible and sustainable – at the core of the mobile sector’s activities”. We think Ofcom needs to be much more proactive than this and to consider the effect an unregulated mobile sector has on a converged market in which the fixed sector is significantly more tightly regulated. Ofcom’s chances of rising to the challenge that convergence brings would be greatly improved if it were to move away from such a *laissez faire* approach.

As we described in our response to the first MSA consultation, the existing regulatory asymmetry means that mobile operators can easily compete in the fixed sector, thanks to the *ex ante* regulation applicable to BT, and in particular the equivalence obligations that apply to the upstream fixed-line inputs provided by Openreach as a result of BT’s Undertakings. However, fixed operators find it difficult to compete in the mobile sector, having to rely on non-obligatory commercial inputs which will axiomatically be offered on terms which favour the interests of the mobile network operator. Fixed operators are therefore unduly constrained in their ability to compete in an increasingly converged fixed/mobile space, to the detriment of competition and therefore end-users.

# 4 *Competition and new entry*

*Q 4.1: We have outlined a number of factors which may affect the future market structure, including network sharing, spectrum and potential consolidation. Do you agree with this assessment, including risks and benefits that we have outlined?*
*Q 4.2: Do you see any risks to competition that we have not highlighted?*
*Q 4.3: Do you agree that a market review in the mobile sector (other than in the call termination market) is not currently required?*
*Q 4.4: We have concluded that competition in the mobile sector is currently addressing access concerns adequately. Do you agree?*

We disagree that competition is working well – we do not consider minor market share shifts, supposedly ‘robust’ switching levels, and niche market entry, to be signs of a healthily competitive market. Ofcom’s own evidence, as presented in “Mostly Mobile” and in its most recent Market Report, has indicators of market failure even before any reduction in the number of players is considered:

- the MNOs’ share of subscriptions stands at almost 90%, has fallen by just 2% since 2004 (in a market that has grown by almost 30%), and has actually been increasing since 2006[2];
- the market share of the leading MVNO (*Virgin Mobile*) is declining and is now smaller than it was in 2004[3];

[2] see figure 4.24 in paragraph 4.1.8 (“A new era for MVNOs”) of Ofcom’s Communications Market Report 2008 www.ofcom.org.uk/research/cm/cmr09/CMRMain_4.pdf

[3] figure 4.24 as above

- mobile switching levels are now lower than those for fixed[4];
- *Blyk* has recently exited the mobile market after just a year[5], its concept taken over by its host MNO.

In the light of its own evidence, it seems surprising that Ofcom can claim that “the mobile sector seems set to remain a vibrant market”. In fact, the UK mobile sector displays a number of further characteristics which evidence that competition is not functioning properly:

- as in many other countries, the UK mobile sector has all the characteristics of a tight oligopoly (even before the proposed *T-Mobile*/*Orange* joint venture): MNOs are vertically integrated and access to their networks represents an enduring bottleneck - barriers to entry are very high, not to say insurmountable, particularly when access to spectrum and licence fees are taken into account;
- MVNOs are not in a position to compete effectively at the retail level against MNOs: the price MVNOs have to pay to access MNO networks does not enable them to achieve a positive retail margin (and this is particularly true for on-net calls);
- MNOs have entered into, and are continuing to formulate, a number of network sharing agreements which have strengthened their competitive positions to the detriment of MVNOs;
- mobile termination charges applied by MNOs to MVNOs when calls to the latter’s subscribers are terminated on other MNOs’ networks are excessive[6];
- absent effective regulation at the wholesale level, MNOs are able to use the rents they derive from mobile termination rates and other wholesale prices (including to MVNOs) to cross-subsidise their own downstream operations.

Ofcom’s Market Report goes on to say that a significant proportion of MVNO subscription growth in 2008 originated from providers offering low-cost international calls[7]. The international calls market is one traditionally characterised by high-margin services attractive to niche players. This development seems to mirror the limited expansion of this minor market in the fixed sector of the 1990s before the mandated availability of wholesale line products introduced more meaningful and sustainable levels of competition in fixed markets.

Ofcom is keen to cite innovation as a key indicator of competition, but its evidence is far from convincing:

- more text and data services are being used;

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[4] see figure 4.78 in the 2008 Market Report

[5] see paragraph 4.1.8 as above; it was reported at the time that *Blyk’s* problems stemmed from its inability to achieve sufficient scale; *Blyk* joins the Danish incumbent *TDC* which launched its MVNO service in the UK as a partner of *easyGroup*, only to have to withdraw from the market in November 2006, having acquired some 80,000 customers in about eighteen months

[6] see BT’s response to Ofcom’s preliminary consultation on wholesale mobile voice call termination at www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Consultativeresponses/Ofcom/2009/Wholesalemobilevoicecalltermination/index.htm

[7] paragraph 4.1.8 *ibid*

- mobile broadband is taking off;
- devices do more and cost less[8].

These are not examples of product and service innovation.  Much of the true innovation appears to have come from outside the mobile sector – from the likes of *Apple* and *Google* and *Skype* – and even these attempts are reported to have been resisted by the main mobile network operators. And within the mobile sector, it is the latest entrant, *3*, rather than one of the incumbents, which has been the instigator of the majority of innovation – for example, the launch and aggressive pricing of dongles, the launch of Skype over mobile, the promotion of social networking, and most recently, the launch of free on-line messaging. We note the absence of examples of innovative services for disabled customers (both in terms of voice applications and in internet access and interaction) and examples specific to the mobile sector, rather than those available from both fixed and mobile networks.

Furthermore, the restrictions on MVNOs mean that service providers can only innovate in the areas of price packages, billing and customer service – areas whose record in innovation is likely to be largely behind them. They are certainly not areas that distinguish and serve to evolve the mobile sector. With the demise of *Blyk*, Ofcom’s table entitled “MVNO innovation in the UK” (Figure 18 in “Mostly Mobile”) comprises just *Lebara Mobile’s* low-cost international call services[9] and the 60,000 metering devices served by *bglobal plc*[10]. The absence of examples of innovation from the likes of *Virgin*, *Tesco, Fresh* and *ASDA* implies that MVNOs are unlikely to be a source of innovation in the future unless they are given better opportunities to do so. Certainly BT, as an MVNO, finds itself with very limited opportunities to innovate in the mobile space given the absence of regulated wholesale access on reasonable terms.

A consistent theme from the responses to the first consultation is that “competition and innovation are critical to providing consumers with genuine choice” (paragraph A8.6). In observing that the mobile sector provides the “potential” for innovation, with competition providing a “need” for businesses to innovate, Ofcom fails to provide convincing evidence that this potential and need have been acted upon. Of the innovations that Ofcom lists in paragraph 4.39, those that have succeeded have largely been those that were developed from (and continued to feed upon) extant services on the fixed networks, such as social networking. The remainder of the examples still in existence are merely different forms of pricing arrangements rather than service innovation.

Ofcom is keen to contrast the five national mobile access networks with the ‘one physical fixed telecommunications access network’, as it does in paragraph 4.19. However, the actual choice afforded to consumers from the

[8] handsets are understood to cost less partly as a result of a subsidy from excessive mobile termination rates (MTRs), so we can expect the effect of this indicator to diminish with the anticipated tighter regulation of MTRs

[9] Ofcom does not make clear how this qualifies as an example of competition beyond “price and customer service” as described in paragraph 4.29

[10] on its website, *bglobal plc* describes itself as a company “that supplies, installs, reads and operates smart meters and supplies customers' energy management software” rather than as a company in the mobile communications business

five operators[11] is, in practice, barely more than the same five wholesale providers[12]. In contrast, in fixed networks, consumers have a choice of hundreds of retailers, each of which has the opportunity to benefit from exactly the same wholesale inputs as the retail arm of the main network provider and is therefore able to compete on an equal footing. It is also somewhat disingenuous of Ofcom to claim that multiple networks provide “the ability for MVNOs to negotiate wholesale contracts rather than being obliged to rely on regulation for the supply of wholesale services”. Not only can both regulated and commercial models co-exist, Ofcom is fully aware from BT’s earlier response that at least one MVNO would prefer regulated wholesale access to the opportunity to engage in a one-sided negotiation. Certainly, the picture implied by this, of multiple networks competing to provide wholesale access to MVNOs, is not one BT recognises, and one which is becoming less plausible in the light of network-sharing arrangements and industry consolidation.

Finally, Ofcom compares the UK mobile sector favourably with its equivalents in the rest of the European Union. However, we note that the UK does not feature as one of the OECD’s ten lowest-priced low- and medium-use mobile baskets in Europe[13]. It is also relevant that other European regulators are adopting pro-competitive approaches in recognition of competition problems in the mobile sectors. The French competition authority, for example, has recognised the difficulties MVNOs experience in competing with MNOs, such as the scope for MNOs to anticipate MVNO retail prices thanks to the wholesale negotiations for network access, thereby providing them with the mechanism to emasculate any competitive threat. These are difficulties which may be familiar to MVNOs operating in the UK[14] and a proactive approach to competition such as that adopted by the authorities in France[15] would certainly be something BT would welcome.

As we indicated in our earlier response, achieving the necessary scale in the market cannot be facilitated merely by Ofcom attempting to fix the interconnection and number portability problems. Ofcom needs to carry out a proper review of the wider market with a view to ensuring that efficient competition across the piece is able to exist and thrive. This includes a consideration of the mandating of access to wholesale inputs (as Ofcom is planning in relation to Pay TV), and/or imposing access conditions that are non-discriminatory and on an appropriate pricing basis in order to enable MVNOs to compete on a level playing-field with MNOs and to bring true competitive pressure. We believe that the resulting encouragement of greater

[11] soon to be four in number, operating over effectively just two networks (as a result of network-sharing arrangements)

[12] and any claim above five must take into account the exit of *Blyk* and indeed BT’s own scaling-back of its mobile propositions in the consumer market place; it is also worth noting that *Tesco Mobile* is described in “Mostly Mobile” (footnote 55 on page 52) as a 50:50 joint venture between *Tesco* and *$O_2$* rather than as an independent service provider

[13] see Tables 7.8 and 7.9 in the OECD’s Communications Outlook 2009 report (August 2009) http://browse.oecdbookshop.org/oecd/pdfs/browseit/9309031E.PDF

[14] BT’s experience also shows that many of the MNOs’ retail offerings, particularly in respect of the corporate market, are simply not replicable on the basis of the wholesale rates available

[15] the *Conseil de la concurrence* analyses the obstacles to the development of MVNOs and makes proposals to create genuine competition momentum; see www.autoritedelaconcurrence.fr/pdf/avis/08a16.pdf

competition on price, service quality and innovation would deliver a corresponding improvement in consumer welfare.

As we noted above, it is *3* which has been responsible for much of the innovation in the mobile sector. *H3G* benefitted from entry assistance in the form of reserved spectrum, mandated roaming and higher termination rates. Not only should this earlier approach to regulation serve as a helpful benchmark for Ofcom going forward, the fact that *3* now risks becoming sub-scale and less able to act as a stimulus in the sector, should act as a spur for regulatory action to ensure the level of competition does not suffer further and thereby jeopardise Ofcom's vision for the sector.

# 5 Investment

*Q 5.1: Do you agree with our assessment of investment in the UK mobile market and our priorities to secure future efficient investment?*

Were Ofcom to intervene in the sector along the lines BT suggests (that is, mandating some form of wholesale access), this should not be seen as necessarily diluting the MNOs' returns on investment. On the contrary, MNOs should continue to enjoy a commercial return while at the same time benefitting from the growth in mobility generally that greater retail diversity offers. BT has of course been a keen advocate of fair returns on network investment, and this principle is equally applicable in the mobile world as in the fixed world. There can be no doubt that efficient investment can be stimulated through the right regulation of bottleneck assets - and indeed, investment has been seen to be higher in those countries with better regulation of bottlenecks. Appropriate intervention can create just the sort of virtuous circle Ofcom describes in relation to mobile data services, whereby greater retail diversity leads to more enriched and innovative services, thus increasing consumer demand which stimulates further mobile network investment.

# 6 Consumer protection and empowerment

*Q 6.1: Ofcom considers that regulatory intervention to protect and empower consumers continues to be needed in the mobile sector and that competition alone is not necessarily sufficient to secure this. Do you agree?*
*Q 6.2: We believe that the approach we take to consumer protection and empowerment in the mobile sector strikes the right balance between taking timely action when necessary, and the need to apply regulation only when effective and proportionate. Do you agree?*
*Q 6.3: Are there any areas relating to mobile services that Ofcom is not currently addressing but which it needs to address in order to achieve its consumer policy objectives? Are there other areas where regulation could be scaled back?*

Ofcom's consumer policy framework is sensible and reasonable. BT was generally supportive at the time the framework was being discussed (early 2006)[16] and it seems a shame that Ofcom has felt it needed to reiterate those principles in the face of the mobile operators' resistance to even the most basic of consumer protection proposals. Consumer protection should be a universal principle, applied wherever it is needed on a technology-neutral

[16] see BT's response http://www.ofcom.org.uk/consult/condocs/ocp/responses/bt.pdf

basis (varying between technologies only where the technology merits it, not on the basis of commercial considerations).

Ofcom puts ‘competition’ at the top of its list of criteria which will deliver its consumer policy objective, recognising that it drives innovation, lower prices and greater choice. BT would agree. The implication is that Ofcom has done all it can to facilitate competition and can therefore safely turn to the other factors which support the effective operation of competition, whereas BT believes that competition in the mobile sector is already failing to deliver the optimal outcome for the consumer. But even turning to the less important of Ofcom’s criteria, there remain consumer detriments that Ofcom’s proposals fail to address. These include the charging by the MNOs for calls to ‘freefone’ numbers (that customers quite naturally expect to be free) and the fact that media consumers still have to be told that competition entry calls made from mobiles ‘will cost considerably more’. These are fundamental consumer issues that might reasonably fall under one or more of Ofcom’s consumer policy criteria and yet on which Ofcom is disappointingly silent.

# 7 Access and inclusion for disabled and vulnerable citizens

A key conclusion of the European Commission’s recent consultation on e-Inclusion[17] was that mobile telephones and mobile devices are considered two of the ICT services and products that can most improve e-Inclusion. Fixed telephony was ranked the lowest on this basis. Yet Ofcom’s focus continues to be on the fixed sector when it comes to issues of access and inclusion. We are disappointed that Ofcom continues to give access and inclusion issues scant attention in the mobile context, with no specific proposals other than encouraging other bodies to do more.

While the Ofcom-facilitated mobile Limited Service State proposal (also known as ‘camping’) is a good start, it is not a solution. Commercial agreements could readily be set up to enable the making of 999, 112 and 18000 calls across any network available within that location as though the caller were dialling from within their home network area. Full roaming capacity would afford additional security against nuisance calling and also allow for the caller to be re-contacted, or traced, during a genuine emergency situation. Were Ofcom to move from camping to requiring full roaming for 999/112 calls, it could then encourage, under similar agreements, full network roaming within the UK for any call type. Customers might be charged a premium for such a facility, just as they are when roaming outside their own Member State. However, the option of making a call when their own network is unavailable, would greatly increase customer accessibility and the usefulness of mobiles overall.

Handsets also continue to be an issue for many and an inclusive design approach would seem to be needed. The text and video capabilities are advances for people with hearing impairments but the menu driven systems and small screens may cause problems with visual impairment and the option for different text sizes or zoom facilities should be standard (as now occurs in

[17] see the report on the public consultation on European e-Inclusion policy, June 2009, available at http://ec.europa.eu/information_society/activities/einclusion/survey/index_en.htm

many PC software packages). Text Relay access is also needed as standard. In order to be able to use Text Relay from a mobile, the network needs opening up to enable 18xxx calls, devices need a reasonable keypad for typing and to include appropriate software to enable the communication to happen. Software does exist that is compatible with a number of handsets (RNID Type by Text Mobile edition). The main mobile providers should provide mobile textphone functionality and audio output as standard.

# 8 Coverage

*Q 8.1: Do you agree that our proposed facilitation role around mobile not-spot issues is a realistic and sensible thing to do?*
*Q 8.2: Do you agree with our general approach set out in the table above? Are there are any other actions we should take and why?*

As Ofcom is aware, BT has engaged fully in the Government’s Digital Britain initiative. We have also sought to influence the activity of the Independent Spectrum Broker in relation to the spectrum aspects surrounding 2G refarming, the gifting of 3G spectrum, and the allocation of 800MHz bands as well as the 2.6GHz band. BT is conscious that the outcome of Digital Britain may impose significant limitations on Ofcom’s freedom to take certain actions. We therefore do not propose to detail our views here, although in almost all respects they impact very closely on the issue of coverage, as well as the other questions raised in this consultation.

We have indicated our views earlier in this response of the efficacy and extent of competition in the mobile sector, and in particular our belief that serious consideration needs now to be given to the possibility of regulated wholesale access in this market. Furthermore, while we would indeed support the new facilitation role which Ofcom suggests for itself in its Table (Figure 41), it is hard to see how this can be entirely effective or efficient if the possibility of wholesale access is to be effectively ruled out.

There are clear examples in the fixed sector that, where a niche market or area remains insufficiently served by operators whose business model does not encompass it, other operators can address the same market quite successfully[18]. It seems to us highly likely that the same would be true in the mobile sector. Again though, this possibility appears to be thwarted before it begins by the absolute denial of the possibility that any form of mandated access to the scarce spectrum resource, or to some form of sharing, except amongst those entities who already have their own mobile network offerings.

There are already signs that mobile data and mobile broadband may well grow at astronomical rates. Indeed, much of Digital Britain is about seeking to both encourage and facilitate this. However, unless this is managed carefully, and sufficient flexibility is retained to deal with outcomes dynamically and swiftly, mobile broadband could become a victim of its own success. It seems questionable that anyone should be encouraging profligate use of scarce spectrum in a wide-area cellular structure at the same time as recognising that mobility is likely to be a key requirement for consumers and

[18] this is often because, for example, additional activities of companies with a different business model, can be brought into play in that area or market, thereby helping to make the venture as a whole commercially viable

end-users going forward. Instead, it is surely vital that policies are developed which encourage the use of spectrum in a manner commensurate with ensuring its availability for use when absolutely nothing else will do - in other words, a model where the least spectrum is used to achieve the optimal outcome. Here too, a higher degree of innovation is likely to result where more and different forms of competition at different levels in the value chain have been encouraged. As a direct result, the market will find solutions, both commercial and technical, to counteract the inevitable challenges engendered by the finite nature of spectrum bandwidth and frequency.

Ofcom makes a commitment to investigate mobile network quality, and in particular, mobile broadband quality, identifying download speed as one factor. It is important that Ofcom consults on the form and nature of tests that will form part of this investigation, and does this with a group wider than just the MNOs. We would suggest that tests need to be devised which assess a range of appropriate performance metrics, including scaling, numbers of potential users and the range of applications which end-users are seeking to make of their services. Simply identifying where and how fast calls can be made (as in the case study cited at paragraph 8.20) will reveal very little about the types of call which could be supported. This will be particularly important if mobile broadband is to be seen as a direct substitute for fixed broadband and used in a comparable manner (for example to support video streaming) rather than merely for 'snacking' while on the move.

In summary, as far as Ofcom's proposed approach to mobile coverage is concerned (Figure 41), BT takes no issue with the words, and indeed would agree that the proposals, actions and purpose are all appropriate. We are less persuaded that the action taken to date, and the market which has thus been shaped, has been as successful as Ofcom apparently believes. Further action to encourage greater and different forms of competition (not merely the competition between 'equals') would have a direct impact on the question of coverage and the nature of the solutions that could be deployed to improve matters.

**BT Group plc**
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