



**SKY RESPONSE TO CMA PRELIMINARY INVITATION TO COMMENT ON THE ANTICIPATED
ACQUISITION BY BT GROUP PLC OF EE**

18 March 2015

1. EXECUTIVE SUMMARY

- 1.1 The proposed merger of BT (the UK's incumbent fixed communications provider) with EE (the UK's largest mobile network operator) raises a wide range of complex horizontal and vertical competition concerns. The merger is likely to have adverse effects on both wholesale and retail competition in the supply of fixed, mobile and converged fixed-mobile communications services including bundles of such services with TV (i.e. triple or quad play services). These effects are likely to translate into poorer outcomes for consumers and businesses than would have been the case absent the merger.
- 1.2 The merger clearly meets the threshold for in-depth investigation under the Enterprise Act. An in-depth investigation is essential to ensure that the effects of the merger on current and particularly future market conditions are properly understood and addressed. Even at the outset, it appears likely that (absent outright prohibition) a wide ranging package of remedies would be required which would need detailed consideration and market-testing to ensure the concerns raised are addressed adequately and comprehensively.
- 1.3 A key issue which makes this merger and analysis of its effects complex and atypical is that competition in the fixed line telecommunications sector is critically dependent on the effectiveness of the regulation of BT's market power deriving from its ownership of the UK's only ubiquitous national fixed line infrastructure. Accordingly, in the following sections we set out some key background to the sector that is relevant to the assessment of the effects of the merger on competition.

Relevant background

- 1.4 It is now commonly accepted that the provision of high quality broadband services, both fixed and mobile, at low prices plays a critical role in future growth and prosperity. As observed in the Government's Digital Britain report: "*The UK's communications infrastructure is a vital enabler for the country's society, economy, safety, security and well being*". In a similar vein, Ofcom has recently stated:

"Digital communications are critical to the UK's economic success and social cohesion. They are used by the average UK adult for over half of their waking hours. The coverage, capacity and reliability of the digital infrastructure over which these services are provided are of fundamental importance to both consumers and businesses."

- 1.5 It is similarly well-recognised that effective competition in the provision of broadband services is critical to delivering high quality services at low prices. This has been demonstrated clearly by the UK's experience in the past ten years. In 2004, with a market dominated by BT, the UK was a relative laggard in the delivery and take-up of broadband services. Most households' internet access was slow, provided via dial-up narrowband services, and expensive, being charged on a per-minute basis.
- 1.6 The entry of firms like Sky and TalkTalk to the sector has resulted in strong competition in the provision of broadband services to consumers and businesses. This competition has been enormously beneficial. In particular, innovations introduced by Sky and others have resulted in: (i) significant increases in broadband speeds, via the introduction of new aDSL technologies, (ii) unlimited pricing plans becoming commonplace, and (iii) broadband being offered at low prices, particularly when taken as part of a triple play, or dual play package. As a result, the UK today has a very high level of take-up and use by consumers and small businesses of broadband services; around 77% of UK homes now access the internet via a fixed broadband connection.
- 1.7 These gains, however, depended critically on two factors: (i) regulation, and (ii) the nature of aDSL technology.
- 1.8 BT has enduring market power at the upstream level, derived from its ownership of the only ubiquitous national fixed line telecommunications infrastructure. Sky estimates that BT earns on average ██████████ more per month from a retail customer on its network than from a customer served by a third party, such as Sky. As a result, it has powerful incentives to leverage its upstream market power to monopolise the retail provision of broadband services.
- 1.9 This means that creating and sustaining competition in the retail provision of broadband services depends on effective regulation. Regulation of BT has had two clear focuses:
- (i) access regulation – principally in the form of 'local loop unbundling' (LLU), which enables third parties to install their own infrastructure deep in BT's network, leasing only the 'last mile' line into homes and businesses, at regulated charges; and
 - (ii) behavioural regulation - to attempt to control BT's incentives to discriminate against third party users of its network.

The latter has been implemented primarily via the undertakings given by BT to Ofcom in 2005, which created Openreach as a quasi-separate entity to operate the national 'last mile' fixed line telecommunications network, together with a requirement to provide services on an 'equivalence of input' (i.e. access to the same services at the same prices) basis to all users of the network, including BT's downstream businesses.

- 1.10 LLU has been possible due to the specific nature of aDSL technology. With aDSL technology, it is possible for third parties to install their own equipment in BT exchanges, leasing only the 'last mile' connection between those exchanges and homes and business premises. LLU requires operators to incur significant fixed costs in rolling out their networks (Sky, for example, has spent over £1 billion on its own network), but has relatively low monthly per-subscriber costs, encouraging tough price competition.

Pressures on competition

- 1.11 Whilst regulation has been successful in promoting competition in a world based on use of aDSL technology, it is under increasing strain. In part, this is associated with the roll-out of fibre by BT and the transition to fibre-based broadband services. It is currently not possible for other communications providers (**CPs**) to install their own infrastructure in

BT's network to the same degree as with LLU in order to compete with BT in the provision of fibre-based broadband services; they are dependent on BT's 'end-to-end' wholesale products. In addition, charges for BT's fibre wholesale services are not subject to full price control.

- 1.12 The result has been that BT dominates the number of subscribers taking fibre-based broadband services. By contrast to its overall share of broadband subscribers on its network at around 39%, around 78% of fibre-based broadband subscribers are BT customers.
- 1.13 Furthermore, it has proven more difficult than anticipated to incentivise Openreach to deal with third party CPs in the same way as it does with BT's downstream divisions. It is now apparent that behavioural remedies provide a weak constraint on BT's powerful incentives to favour its own retail business. For example, equivalence of inputs is easily side-stepped by Openreach providing services especially suited to or consumed mainly by BT's retail businesses. And it is extremely difficult, if not impossible, for CPs to persuade Openreach to develop new products that would suit them (but not BT), or to do deals to increase customer numbers if there is a risk that this would impact BT Consumer.

It is difficult for regulation to address these pressures

- 1.14 The problems set out above are well-recognised, and Ofcom has been working to attempt to address them. In relation to fibre-based broadband services, it has proposed introducing an additional regulatory constraint on BT pricing – the 'VULA margin test'.
- 1.15 Nevertheless, it is evident that regulation, on which effective competition in the provision of broadband services critically depends, is under increasing strain.

The merger will exacerbate these problems in fixed broadband services, and extend them into the mobile sector

- 1.16 The merger would significantly exacerbate the difficulties associated with effective regulation of BT in relation to the provision of fixed line broadband services, on which effective downstream competition crucially depends. For example, the merger will increase BT's ability and incentive to: (i) allocate costs to higher bandwidth backhaul services increasingly consumed by rival fixed broadband CPs seeking to adapt to the challenge of ever increasing demand for data; (ii) favour the development of active products over passive ones; and (iii) prioritise investment in its network to the benefit of the enlarged retail businesses. Of increasing significance given the transition to fibre-based broadband services is also that the key mechanism proposed by Ofcom for addressing BT's leveraging of its upstream market power into the retail provision of superfast broadband services – the VULA margin test – becomes increasingly complex as more products are bundled with superfast broadband. This complexity increases the likelihood of it being ineffective in constraining such leveraging, with potentially significant detrimental impacts on competition in the provision of fixed line broadband services.
- 1.17 In relation to mobile services, the merger would result in the vertical integration between EE's substantial retail mobile business, and Openreach. Openreach is a dominant supplier of backhaul services, a critical input for mobile. Currently, BT has limited incentives to discriminate among mobile operators in the provision of backhaul services. If the merger were to proceed, the vertical integration between EE's retail mobile telephony business and Openreach would extend into the retail mobile sector all the incentive problems that are currently experienced in the fixed line broadband sector. The merged entity would have significant incentives for example to exploit its position in backhaul to impede the emergence of next generation small cell networks, likely to play an increasingly important role in meeting the demand for data over time. The merged entity will also have reduced

incentives to host virtual mobile network operators, particularly those offering quad play services, as the degree of differentiation between host and potential MVNO customers is reduced [REDACTED]

The merger creates significant anti-competitive horizontal effects

- 1.18 The merger would also result in a number anti-competitive horizontal effects including in:
- (i) retail mobile services - prior to the merger, BT had entered as a “super MVNO”, leveraging its unrivalled fibre network, Wi-Fi assets, 4G spectrum and near-ubiquitous mobile coverage via the EE network. The effect of the merger is to eliminate this existing and, more importantly, prospective competition between BT and the four MNOs leading to a loss in innovation and potential price competition, to the detriment of consumers;
 - (ii) fixed retail broadband services - the key effect is the loss of independent competition between the parties which needs to be considered alongside the vertical effects of the merger in order to appreciate fully their significance particularly in relation to BT’s strategy of re-establishing its dominant position in retail broadband services; and
 - (iii) 4G Spectrum - the merger creates a concentration in 4G spectrum ownership which exceeds the level considered by Ofcom to be the minimum necessary for effective competition, undermines the existing diversity of spectrum owners and eliminates BT as an independent bidder for future spectrum.

Conclusion

- 1.19 The proposed merger raises a wide range of complex anti-competitive effects, giving rise to potential significant losses of competition in communications services to the detriment of UK consumers and businesses. The addition of the UK’s largest mobile operator to BT’s incumbent fixed communications business will put further pressure on an increasingly strained regulatory regime on which effective competition in the provision of broadband services crucially depends. Therefore, the test for in-depth investigation is clearly met and the merger requires thorough scrutiny, so that its impact on current and particularly future market conditions are properly understood and addressed.

2. OUTLINE OF RESPONSE

In the following sections we consider:

Section 3: The Parties and the contemplated transaction(s)

- 3A: BT
- 3B: EE
- 3C: The proposed merger and further imminent consolidation

Section 4: Key features of the communications sector

- 4(A): Importance of the UK’s communications infrastructure and reliance of competition on regulation of key parts of it
- 4(B): BT’s incentives and the strain on the regulatory regime

- 4(C): Responding to the growth in demand for data places even greater dependence on the regulatory regime
- 4(D): Distribution of mobile assets is highly concentrated

Section 5: Impact of the proposed merger on competition

- 5(A): Horizontal effects
- 5(B): Vertical effects

3. THE PARTIES AND THE CONTEMPLATED TRANSACTION(S)

3(A) BT

- 3.1 BT is the historical incumbent of the UK telecoms sector. It has Significant Market Power (**SMP**) in several key markets, and owns, via Openreach, key strategic infrastructure assets: the unique, non-replicable “last mile” (between the local exchange and customer premises) and around 80% of the “middle mile” (used for backhaul to support fixed and mobile communications services). Openreach is responsible for supplying the essential “raw” or “unmanaged” access inputs and certain active products to competing CPs who rely on those inputs to provide, amongst other things, competing broadband (standard and superfast broadband, (**SFBB**))¹ and telephony services to consumers. Due to its SMP, wholesale access to the inputs supplied by Openreach is regulated (the inputs and regulatory regime governing them are set out more fully in **Annex 1**). Openreach’s largest external customers are Sky and TalkTalk (although it sells products to all major communications companies in the UK). Its main competitors for the wholesale supply of backhaul services include Virgin Media, Colt Group and Vodafone. Openreach’s revenues account for c.28% of BT Group’s UK revenues.²
- 3.2 BT Wholesale (**BTW**) provides end-to-end managed broadband and telephony products using a combination of wholesale access inputs from Openreach and its own infrastructure, and sells these “managed” wholesale services to BT’s retail divisions (BT Consumer and BT Business) and competing operators, including EE. For example, BTW provides all mobile operators with a managed product called Managed Ethernet Access Solution (**MEAS**), which is based on the Openreach product, Ethernet Access Direct (**EAD**). BTW also sells wholesale voice termination and origination, interconnection services including IP exchange, hosted communications services and certain media and broadcast services.
- 3.3 BT Consumer retails fixed-voice, broadband and TV services to consumers under the BT and Plusnet brands and purchases managed wholesale products from BTW.³ BT Consumer is the UK’s largest retailer of broadband and telephony services, with a market share of around 31% in fixed broadband. This is well ahead of the next largest providers, Sky and Virgin Media on around 20% (see further table 2 in section 5A, below).
- 3.4 BT Business retails broadband, phone, SFBB, networking and communications services to businesses. BT Global Services provides managed networked IT services for large

¹ Standard broadband is defined by Ofcom in its Infrastructure Report 2011 as having speeds of less than 24 Mbps and superfast broadband is defined as having speeds of more than 24 Mbps.

² BT’s results to 31 March 2014, <http://www.btplc.com/news/articles/showarticle.cfm?ArticleID=b37789ab-6ae4-4dbf-861d-ef6f8e07f8e0>.

³ Although it purchases Wholesale Line Rental (**WLR**) directly from Openreach.

corporate and public sector customers. Together, BT's UK divisions downstream of Openreach account for some 72% of total BT Group revenues.

- 3.5 BT also occupies an almost unique position within the EU as one of the very few national telecoms incumbents without their own mobile operator (following the demerger of O2 from BT in 2002 and its subsequent sale to Telefonica in 2005). BT had been actively seeking to address this lacuna in its portfolio by entering the consumer mobile market as a "super" Mobile Virtual Network Operator (**MVNO**) - see further **Annex 2**, in direct competition with the established Mobile Network Operators (**MNOs**).

3(B) EE

- 3.6 EE was formed through the merger of the UK mobile business of Orange S.A. and Deutsche Telekom A.G.'s UK T-Mobile business in 2010. It is the largest MNO in the UK with a total of approximately 31 million connections. It is also the largest 4G network operator in Europe with a total of 7.7 million connections.⁴ EE also has the leading position in mobile network infrastructure in the UK. This is as a result of it holding the largest allocation of mobile spectrum in the UK. This includes in particular, the largest amount of high frequency, high capacity 4G spectrum of all UK MNOs. EE already holds almost three times the amount of paired spectrum in frequencies at or above 1.8GHz than the next biggest mobile operator (see further Table 1, paragraph 4.30, below).⁵
- 3.7 EE's leading position in mobile network infrastructure is also a result of its network sharing agreement in a 50/50 joint venture, Mobile Broadband Network Limited (**MBNL**), covering EE and Three's 3G and 4G mobile networks. MBNL was initially established in 2007 to consolidate T-Mobile, Orange and Hutchison's radio area networks (**RAN**). Following the merger of T-Mobile and Orange in 2010, MBNL's role was subsequently extended to consolidate Orange's 3G RAN cells into the combined network. MBNL's role was further extended in February 2014 to share the cost of investment in the expansion of EE's and Hutchison's 4G networks. With respect to their 3G networks, MBNL is a true active network share (with both mobile networks sharing backhaul amongst other things). The MBNL network share with Three is widely credited with having transformed EE's mobile network from one of the worst to the best (along with Three), realising substantial savings (reducing the number of mobile cells from c.18k to c.13k) while at the same time improving coverage, quality and capacity. To date, MBNL's 4G network sharing arrangements are limited to the sharing of passive infrastructure.
- 3.8 EE is also the UK's largest provider of mobile network hosting; as of 31 December 2013, EE had 29 MVNO partners, including Asda Mobile and Virgin Mobile, the largest MVNO in the UK.⁶ Since then, EE has also signed a significant MVNO deal with BT Mobile. EE's 2014 results show that it now has 3.7 million MVNO connections on its network.⁷

⁴ See EE press release on results for year ended 31 December 2014, 5 February 2015, available at <http://ee.co.uk/our-company/financials/2015/02/05/ee-results-for-the-year-ended-31-december-2014>.

⁵ EE currently holds 2x105 MHz compared to 2x40.6 MHz held by Vodafone.

⁶ EE Annual Report Group and Company Financial Statements for year ended 31 December 2013, available at https://ee.co.uk/content/dam/everything-everywhere/Newsroom/Bonds%20and%20financials/EE_Accts_YE_2013_EY.pdf

⁷ EE press release on EE results for year ended 31 December 2014, 5 February 2015, available at <http://ee.co.uk/our-company/financials/2015/02/05/ee-results-for-the-year-ended-31-december-2014>.

- 3.9 As well as its core 3G/4G mobile data offering, EE also has a small but significant presence in fixed line broadband, including SFBB,⁸ competing directly with BT's retail broadband offering. EE's solid performance including a return to subscriber growth, together with the significant cross-selling opportunities afforded by its huge mobile customer base (reflected for example in a recent statement from EE that "[F]ixed broadband is rapidly becoming a more integral part of the company, with a greater emphasis on cross-selling mobile and fixed products."⁹), suggests that it could in time have been a significant competitor to BT in broadband. EE's unique selling point (featuring heavily in its marketing) is the ability to offer access to the UK's largest 4G mobile network in the UK along with fixed fibre broadband. Indeed, no other provider currently offers consumers both 4G mobile communications services and SFBB.¹⁰ EE's most recent results show that its continued push to provide extensive 4G and SFBB coverage is paying off. EE also provides TV services, and is therefore an existing provider of quad play services (the merger is also likely to impact on competition for these services - see section 4 B iii) below).
- 3.10 EE currently purchases some of its backhaul requirements to support its mobile and fixed communications services from Virgin Media (it also relies on BT for the supply of these services).

3(C) The proposed merger and further imminent consolidation

- 3.11 In assessing the competitive effects of the proposed merger between BT and EE, the CMA must also have regard to the impending consolidation of Three and O2. This combination will reduce from four to three the number of MNOs in the UK, [REDACTED]
- [REDACTED]

4. KEY FEATURES OF THE COMMUNICATIONS SECTOR

- 4.1 A number of features of the UK's communications sector are crucial to understanding the multiple competition concerns raised by the proposed merger. In this Section, Sky explains that:
- (a) the delivery of high quality fixed and mobile broadband services at low prices is important for economic growth and prosperity and effective competition is critical

⁸ EE has maintained its 3% share of retail broadband for the last three years. Currently, EE has approximately 834,000 broadband subscribers following the addition of 108,000 new customers in 2014, including 41,000 customers in Q4 2014. EE press release on EE results for year ended 31 December 2014, 5 February 2015, available at <http://ee.co.uk/our-company/financials/2015/02/05/ee-results-for-the-year-ended-31-december-2014>.

⁹ EE Annual Report Group and Company Financial Statements for year ended 31 December 2013.

¹⁰ Virgin offers 4G services as an MVNO on EE's network, but only to business customers. TalkTalk signed an MVNO agreement with O2 in November 2014, which will allow it to offer 4G services but these have not yet launched.

to delivering this. A key issue which makes analysis of this merger complex and unusual is that competition, and the benefits it brings, is highly dependent on regulation of BT's market power. BT's market power derives from its ownership of unique communications infrastructure and is combined with powerful incentives to favour its own retail operations. To encourage and maintain effective competition in the delivery of fixed and mobile broadband services, a complex regulatory regime has been developed. This has fostered deep infrastructure-based retail competition that has delivered important consumer benefits to date, but the continued delivery of these depends very much on the efficacy of the regulatory access regime and this is already under strain.

- (b) The proposed merger occurs at a time when the communications sector is facing a key challenge presented by the substantial growth in demand for data from consumers, increasingly using data-hungry services on multiple devices in the home and on the move. CPs are responding to the challenge with developments in their fixed and mobile networks to carry ever increasing amounts of data and increasingly over hybrid fixed/mobile solutions. At the same time, quad play bundles featuring both fixed and mobile services are becoming increasingly important.
- (c) The ability of CPs to respond effectively to increased demand for data will place increased reliance on the regulatory regime governing access to essential wholesale inputs from Openreach.
- (d) The distribution of key mobile assets is already highly concentrated and the proposed merger will increase that concentration further, as will the Three/O2 merger. The conditions of access to the relevant assets and services therefore become important to the assessment of competition post-merger.

4(A) Importance of the UK's communications infrastructure and reliance of competition on regulation of key parts of it

4.2 The UK's communications infrastructure plays a vital role in the UK economy:

According to the Government's Digital Britain report: "*The UK's communications infrastructure is a vital enabler for the country's society, economy, safety, security and well being.*"¹¹

More recently Ofcom stated: "*Digital communications are critical to the UK's economic success and social cohesion. They are used by the average UK adult for over half of their waking hours. The coverage, capacity and reliability of the digital infrastructure over which these services are provided are of fundamental importance to both consumers and businesses.*"¹²

4.3 Moreover, the importance of enabling sustainable, enhanced competition in access-specific sectors like communications is reflected in the Government's strategic steer to the CMA to:

¹¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228844/7650.pdf

¹² See Ofcom's Strategic Review of Digital Communications Terms of Reference (SRDC): http://stakeholders.ofcom.org.uk/binaries/telecoms/policy/digital-comms-review/DCR_Terms_of_reference_12_March_2015.pdf

*“consider whether there are appropriate structures in place to support sustainable competition, consistent with long-run growth” and “assess specific sectors where enhanced competition could contribute to faster growth (for example, knowledge intensive sectors, financial services and infrastructure sectors including energy)...”.*¹³

4.4 As explained in section 2 and **Annex 1**, BT owns via Openreach, key strategic infrastructure assets - the local loops and leased lines used for backhaul - regulation of which plays a crucial role in supporting retail competition for broadband and telephony services, fixed and mobile. Access to these key strategic assets and provision of communications services in the UK is underpinned by a complex regulatory framework comprised of:

- (a) *ex ante* SMP regulation - which imposes an extensive and complex set of behavioural access conditions on BT, including: specific access related obligations; formal price regulation (charge controls and/or cost orientation); non-discrimination obligations; a quality of service obligation and accounting separation requirements; and
- (b) the BT Undertakings - which resulted in the creation of a functionally separate Openreach, BT's access network division, responsible for nearly all of BT's access infrastructure (including the copper network, the fibre or next generation access (**NGA**) network as well as ducts, poles and other civil infrastructure), and the provider of essential wholesale inputs.

4.5 Together, these regulatory levers are designed to ensure that BT (via Openreach) provides access to its network on equivalent terms to all CPs (including downstream BT divisions), thereby promoting competition. As Ofcom recently described it:

*“Today, our strategy draws on a range of policy interventions to promote competition, investment, innovation and widespread availability.”*¹⁴

4.6 The Government recognised in its Digital Britain Report that the regulatory regime and market forces *“injected competition to the market and extracted value from the infrastructure”* with opportunities *“seized by providers such as Carphone Warehouse and Sky who at their own risk have deployed exchange-based infrastructure investments”*.

4.7 Indeed, the entry of firms like Sky and TalkTalk to the sector has resulted in strong competition in the provision of broadband services to consumers and businesses and this has delivered important benefits to consumers. In particular, innovations introduced by Sky and others have resulted in: (i) significant increases in broadband speeds, via the introduction of new Asymmetric Digital Subscriber Line (**aDSL**) technologies, (ii) unlimited pricing plans becoming commonplace, and (iii) broadband being offered at low prices, particularly when taken as part of a triple play, or dual play package (see further **Annex 3**). This has transformed competition at the retail level. As a result, the UK today has a very high level of take-up and use by consumers and small businesses of broadband services; around 77% of UK homes now access the internet via a fixed broadband connection¹⁵, with LLU accounting for 44% of all broadband connections (increasing from 17% in 2005)¹⁶, or over 9.67 million unbundled lines.¹⁷

¹³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/245607/bis-13-1210-competition-regime-response-to-consultation-on-statement-of-strategic-priorities-for-the-cma.pdf

¹⁴ See the SRDC, paragraph 120.

¹⁵ See Figure 5.5 of Ofcom's Communications Market Report 2014 available here; <http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr14/>

¹⁶ Paragraph 1.17 of the SRDC.

¹⁷ <http://www.offta.org.uk/updates/otaupdate2015Feb.htm>

- 4.8 The benefits brought by this competition however depended on two factors: (i) regulation; and (ii) the nature of aDSL technology. Regulation in 2004/5 which delivered wholesale price reductions and the requirement for BT to 'industrialise' the processes for transferring local loops to competing providers was instrumental in facilitating deep-infrastructure based competition at scale. With aDSL technology, it is possible for third parties like Sky to install their own equipment in BT exchanges, leasing only the 'last mile' connection between those exchanges and homes and business premises. Operators like Sky have therefore made large investments in their own telecoms infrastructure (Sky itself has spent over £1 billion on its own network).¹⁸
- 4.9 Whilst regulation has been successful in promoting competition in a world based on aDSL technology, it is under increasing strain. In part, this is associated with the roll-out of fibre by BT and the transition to fibre-based broadband services. It is not possible for other CPs to install their own infrastructure in BT's network to the same degree as with LLU, in order to compete with BT in the provision of fibre-based broadband services, instead they are dependent on BT's active wholesale product, Generic Ethernet Access (**GEA**). In addition, charges for BT's fibre wholesale services are not subject to price controls (as explained more fully in **Annex 1**).

4(B) BT's incentives and the strain on the regulatory regime

- 4.10 The continued ownership by BT of the only ubiquitous national fixed line telecommunications infrastructure, in combination with substantial downstream businesses which account for the large majority of BT's revenues (see paragraph 3.4 above), creates overwhelming incentives for BT to favour its downstream operations. Sky estimates that BT earns on average £15-£25 more per month from a retail customer on its network than from a customer served by a third party such as Sky.¹⁹ These strong incentives have placed the regulatory regime under constant and significant pressure.
- 4.11 As a long standing customer of Openreach, Sky has direct experience of BT's incentives to favour its downstream operations, which, despite the existing regulatory regime, have manifested themselves in three main categories of distortion (further details are provided in **Annex 4**):
- *cost allocation* - by exploiting the scope afforded by the regime to allocate costs between different products, BT has been able to raise the wholesale price of inputs used only (or in larger proportions) by its downstream rivals.
 - *product development* - BT has favoured the development of active products consumed by its downstream divisions at the expense of providing viable passive access services that would have enabled greater differentiation and the development of competing products. Examples of this are the lack of priority given to the development of products that would have enabled greater competition in SFBB, or significant delays in provisioning; and a lack of access to BT's dark fibre, ducts and poles in favour of BT's active backhaul product portfolio; and
 - *investment priority* - although Openreach is functionally separate from the rest of BT, its operating plan (including budget, capital and operating expenditure) is

¹⁸ For example, Sky has invested heavily in unbundling BT's local exchanges and has unbundled [REDACTED] exchanges covering over [REDACTED] of homes to date. Sky now has approximately 5.25 million broadband subscribers and 5 million telephony customers. Sky, Results for the twelve months ended 30 June 2014, page 3

¹⁹ Sky estimates of BT's average contribution from a retail broadband customer taking standard broadband or SFBB on BT's network relative to the contribution of a retail broadband customer served by Sky, based on BT's published retail pricing as at February 2015.

nevertheless approved by the BT Group board (Openreach's CEO moreover reports to the BT Group CEO)²⁰ and this influences its investment decisions. For example, to benefit its consumer business, BT has afforded priority to investment in the roll out of its fibre network over pro-active maintenance of its copper network. This has resulted in increased faults and delayed repair and service provisioning for downstream operators like Sky, and in turn for consumers.

- 4.12 Such distortions have already hindered innovation and differentiation by competing providers, particularly in SFBB (where the regulatory regime is lighter touch and where CPs are dependent on GEA) and backhaul services (Openreach is the largest provider of these²¹ and BTW also uses inputs from Openreach to market end-to-end managed services which are mostly unregulated), both of which are critical to the future competitive landscape. Ultimately these issues directly affect consumers, in terms of the service and price that competitors like Sky can provide.

4(C) Responding to the growth in demand for data places even greater dependence on the regulatory regime

- 4.13 The proposed merger also takes place at a time when consumer and business demand for data is growing significantly, driven by increasing use of data-hungry applications (such as video calling) and changes in the way audiovisual programming is being accessed. The latter is perhaps the most significant driver of demand for data, as services are increasingly accessible via multiple devices being connected simultaneously to the internet inside the home (e.g. smartphones, tablet computers and, more recently, smart TVs, bringing them into the living room as a direct substitute for traditional TV services)²² and increasing use of mobile devices "on the move".

- 4.14 This growth in demand for data is leading to a range of supply side responses as CPs develop their networks to carry ever increasing amounts of data and increasingly over hybrid fixed/mobility solutions. The one thing all these solutions have in common is that they will rely more and more on the provision by Openreach of key inputs, and in turn on regulation of access to these inputs. Supply-side responses are also leading to increased substitutability between mobile and fixed broadband services, which is relevant to the degree of competition between BT and EE pre-merger.

The transition from standard to SFBB

- 4.15 In fixed broadband, as demand for data increases, consumers and businesses are rapidly transitioning away from standard fixed broadband to SFBB (with the take-up of SFBB services growing from a tiny fraction of all connections in Q1 2010 to 32% in November 2014).²³ Indeed, Ofcom has recognised that the next two years represent an important period in the transition from standard fixed broadband to SFBB.²⁴ As this trend continues,

²⁰ Sections 5.25 and 5.28 of the Undertakings.

²¹ Sky depends on Openreach for the provision of LLU backhaul to serve the majority of its unbundled exchanges.

²² For example, an individual may view an internet TV service on a smart TV while simultaneously browsing the internet on a tablet or smartphone; and rather than a single family computer, each member of a household will likely have their own device(s).

²³ http://stakeholders.ofcom.org.uk/market-data-research/other/telecoms-research/broadband-speeds/broadband-speeds-november2014/?utm_source=updates&utm_medium=email&utm_campaign=bb-speeds-nov14

²⁴ Paragraph 1.4, FAMR.

the ability of CPs to offer a credible high-quality broadband service (with high speeds becoming increasingly synonymous with quality) will be critical to remaining competitive going forward. All the major fixed operators now offer SFBB: Sky, TalkTalk, BT and EE all have SFBB propositions, with Virgin Media also offering superfast services over cable technology.

- 4.16 As demand for data increases, and consumers are rapidly transitioning away from standard to SFBB, so too does reliance of CPs on regulation of Openreach's supply of the essential wholesale input for the provision of SFBB, GEA (as discussed in paragraph 4.9 and **Annex 1**). To date, however, this regime has afforded BT greater freedom to act on its incentives to favour its downstream operations. In contrast to its overall share of broadband subscribers serviced over the BT access network of around 39%, around 78% of fibre-based broadband subscribers are BT customers.²⁵

Mobile broadband

- 4.17 With consumers increasingly demanding access to large volumes of data "on the move", and advances in mobile technology (3G and 4G), mobile broadband has emerged as a key form of high data capacity service. This is provided by MNOs and MVNOs, on mobile devices with integrated antennae (smartphones and tablets), via dongles designed to be used with personal computers and via dedicated mobile Wi-Fi devices.
- 4.18 Developments in 3G technology and the launch of 4G services have greatly increased the speed and usage limits available to mobile broadband subscribers, while average cost per MB has fallen.²⁶ BT has indeed repeatedly told Ofcom that mobile broadband exerts a competitive constraint on fixed broadband.²⁷ Mobile broadband has become a credible alternative to standard fixed broadband for at least some types of consumer (for some households, mobile broadband alone now meets their needs²⁸) and for most consumers in at least some usage situations. EE has itself marketed its 4G+ service in the UK as "*even faster than most fibre broadband available here*"²⁹.

²⁵ Supported by Openreach's NGA network.

²⁶ A simple tariff comparison as of January 2015 shows that the combination of a low-end fixed broadband line plus a low-end mobile phone contract is similar in price to a high-end mobile phone contract: BT offers a normal broadband product with a 20 Gbyte download limit for £24.50 incl. VAT and line rental (plus a £30 activation fee), while EE offers a 20 Gbyte 4G offer with '4G double speed' with speeds up to 90 Mbit/s for £39 incl. VAT. The cheapest monthly contract on EE includes 500 Mbytes of data and 500 Minutes of phone calls for £15 per month. The combination of the BT line at £24.50 plus the cheapest EE monthly tariff at £15, equal to £39.50 is therefore slightly more expensive than EE's 20 Gbyte 4G+ offer. Moreover, an EE-Wi-Fi router is now included for free on monthly packages of more than £15.

²⁷ For example, during the consultation period of the Fixed Access Market Review (**FAMR**) and in its consultation response document, BT argued that mobile broadband at least poses a competitive constraint on fixed broadband that needs to be considered at the same time as the widening of the market. See BT's response to Ofcom's consultation document "*Review of Wholesale Broadband Access Markets*", 25 September 2013, available at: [http://www.btplc.com/Thegroup/RegulatoryandPublicAffairs/Consultativeresponses/Ofcom/2013/WBA2013Response/WBA_2013_Response\(2\).pdf](http://www.btplc.com/Thegroup/RegulatoryandPublicAffairs/Consultativeresponses/Ofcom/2013/WBA2013Response/WBA_2013_Response(2).pdf). In particular, BT noted that mobile costs are forecast to decline significantly, citing a report from Plum Consulting which predicted the cost per GB for mobile broadband might fall to less than £1 and potentially to around £0.20. BT also argued that at these prices, a consumer could buy significant amounts of mobile data for the cost of a fixed line contract (see paragraph 3.139 of Ofcom's consultation document).

²⁸ According to the latest Ofcom figures, around 11% of households use mobile access for both telephone and internet services (Ofcom Communications Market Report 2014, at page 348).

²⁹ See EE's press release announcing the launch of 4G+ in London, 30 October 2014, available at <http://ee.co.uk/our-company/newsroom/2014/10/30/ee-switches-on-next-generation-of-4g-worlds-fastest-mobile-speeds-now-available-in-london>.

- 4.19 At the same time, the increasing use of smartphones and mobile network-enabled tablets (for high levels of mobile data consumption)³⁰ creates a challenge for mobile operators given the technical limitations of mobile radio signals (especially above 1 GHz) in propagating through walls (while most, some 70-80%, of mobile data traffic occurs indoors).³¹ All leading MNOs agree that the only way in which they will be able to handle the sharp rise in mobile data traffic is through so-called 'next-generation small cell heterogeneous networks', or 'HetNets'.³² These networks add to macro cells a second layer of small cells, so called micro (radius 100-300m), pico (radius <200m) and femto cells (radius 10-25m), using high-frequency spectrum capable of carrying large amounts of data but within a limited range.
- 4.20 Vodafone recently signed a deal with the outdoor advertising company JCDecaux to deploy small cells on bus stops, billboards and other street furniture in order to boost the speed and capacity of its 3G and 4G networks in highly populated areas.³³ Virgin Media's Business division and Arqiva recently agreed a partnership to market end-to-end small cell services to MNOs, drawing on Arqiva's wireless technology and Virgin Media's fibre network.³⁴ Via Openreach, BT also now offers a wholesale mobile small cell solution, Mobile Infill Infrastructure Solution (**MIIS**) allowing mobile providers to strengthen coverage and reduce mobile blackspots.

Fixed/mobile broadband convergence

- 4.21 There is also growing competition between operators to provide customers with access to converged high data capacity services which can transition between fixed and mobile environments. From a consumer perspective, it is increasingly possible to access the same application on both stationary and mobile devices, which in turn allows for substitution between them depending on the user's situation. Competition will increasingly take place therefore not just over a single network (e.g. fixed line broadband or mobile) but over hybrid mobility solutions encompassing fixed line SFBB in the home, 4G (or, eventually, 5G) mobile data services and outdoor Wi-Fi networks. Hybrid mobility solutions are therefore becoming increasingly important to future competition in this sector.
- 4.22 Indeed, Ofcom has recognised that:

"The continued trend of convergence is driving new business models, new network architectures and merger activity. Adoption of bundled services continues to grow. It is likely that fixed and mobile technologies and networks will converge over time. End user devices are making increased use of wireless, and networks are making increased use of fibre to provide the necessary network capacity."³⁵

- 4.23 Indeed, prior to announcement of the proposed merger, BT had been pursuing the development of a 'super MVNO' hybrid mobility solution, building on its strong presence

³⁰ Cisco Visual Networking Index, Global Mobile Data Traffic Forecast Update, 2014-2019, p. 2 estimates that, at around 2 GByte/month mobile enabled tablets consume on average 2.5 times as much data as smartphones.

³¹ Ofcom Combined 800 MHz / 2.6 GHz Award Statement of 24/07/14, Annex 2.

³² For an example, see Nokia Networks Whitepaper of October 2013, *Designing, Operating and Optimizing Unified Heterogeneous Networks*

³³ See <http://www.techweekeurope.co.uk/mobility/4g/vodafone-small-cells-4g-jcdecaux-157235>

³⁴ See Arqiva's press release dated 19 February 2015 (<http://www.arqiva.com/news/press-releases/new-partnership-set-to-revolutionise-4g-connectivity/>)

³⁵ Paragraph 1.32 of the SRDC.

inside homes and business premises³⁶, with an “inside-out network” strategy leveraging its fibre and Wi-Fi networks, ownership of 4G spectrum³⁷ and MVNO access to the EE mobile network (as described in **Annex 2**). According to BT, the strategy was intended to meet “customer demand for a complete converged fixed and mobile solution” and “customer needs for fast and reliable data and voice services wherever they are”.³⁸ Lacking its own traditional mobile solution, this type of service was intended by BT to provide an alternative that reduced the attractiveness of premium mobile broadband services offering high usage to BT customers who live and work in areas where these hotspots are prevalent.

- 4.24 The rise of hybrid mobility solutions will require many more backhaul links to be installed to connect the greater number of small cells (some industry commentators consider a ten-fold increase in the number of base stations to be likely³⁹). In this respect, BT’s existing network of street cabinets would in many instances be perfect locations for the controlling units of Long Term Evolution (**LTE**) base stations (so-called “eNodeB”) given their existing backhaul links. These would then be linked to antennae on poles such as street lamps or bus stops. BT’s existing street cabinet network is therefore expected to represent a significant competitive advantage for BT in rolling out its planned hybrid network.
- 4.25 The growing importance of backhaul services, together with Openreach’s leading position in providing these, underlines the importance going forward of BT’s choices in allocating scarce resources for investment in its backhaul infrastructure (e.g., for service provisioning and improvements through innovation). These will be important in determining whether BT’s retail competitors will be able effectively to meet consumer demand for high data capacity services in the future, whether via SFBB, mobile broadband or hybrid mobility solutions. It also means that the ability of other CPs to compete with BT will depend more and more on the terms agreed with Openreach or BTW for such services.

Emergence of quad play services

- 4.26 Competition in triple play bundles which include fixed voice, fixed broadband and TV is already an established feature in the UK. Whilst quad play has not yet gained significant traction, there is considerable scope for it to do so and for the UK to move in the direction of other European countries – where the evidence is that customers are increasingly attracted, and switching to, bundles combining fixed and mobile voice and broadband with audiovisual content. Accordingly, telecoms operators have acquired content which they now provide as part of their fixed/mobile bundles and pay TV operators have entered into MVNO contracts to complement their existing offers of content with mobile telephony. In major European markets such as Spain and France, convergent offers have taken off at great speed and are already accounting for a sizeable portion of the market – supported by favourable tariff structures.⁴⁰

³⁶ While BT launched mobile services for business customers in August 2014, its planned consumer mobile offering has not yet been launched.

³⁷ BT acquired two paired 15 MHz and one unpaired 20 MHz allocations in the 2.6 GHz band in the 2013 4G spectrum auction in March 2013, for £186m. As BT declared at the time, “...this spectrum will complement our existing strategy of delivering a range of services using fixed and wireless broadband. We want our customers to enjoy the best possible connections wherever they are and this spectrum, together with our investment in fibre broadband, will help us achieve that.” See BT Press Release of 20 February 2013, available at <http://www.btplc.com/News/Articles/ShowArticle.cfm?ArticleID=1933E628-6973-4835-AF50-5548CD979649>.

³⁸ See BT’s May 2014 results presentation, slides 34 and 35 <http://www.btplc.com/Sharesandperformance/Quarterlyresults/PDFdownloads/q414-slides.pdf>

³⁹ JDSU Whitepaper, ‘Optimising small cells and the heterogeneous network (HetNet), page 5

⁴⁰ In Spain, for example, there has been a rapid and dramatic shift of the market from simple fixed line/broadband bundles (until 2012 representing a fairly stable ¾ of all broadband connections) to convergent fixed/mobile offers and now to bundles including content. Telefónica – the incumbent, market leader and in a similar

4.27 In the UK, three providers have already begun to include mobile services to create quad play bundles.⁴¹ This trend is confirmed by statements made by BT and a number of analysts, as set out in **Annex 5**. [REDACTED]

[REDACTED] Vodafone is launching TV and fixed broadband this summer. Virgin Media, TalkTalk and EE already offer quad play. These developments suggest that the UK telecoms and audiovisual sectors are moving in a similar direction as a number of overseas markets, where providers already compete heavily on quad play bundles, and that the ability to offer such bundles is becoming increasingly important to retail competition.

4 (D) *Distribution of mobile assets is highly concentrated*

4.28 Mobile communications services are highly concentrated not only at the retail level, with EE, O2, Three and Vodafone holding close to 90% of the market by revenue, but even more so at the network level – with each of the four MNOs operating mobile network infrastructure being party to a network sharing agreement with another MNO: Vodafone and O2 are party to the CTIL network sharing joint venture, while EE and H3G participate in the MBNL network sharing joint venture.

4.29 Concentration at the network level means that MVNOs have very few potential hosts. Preserving the incentive of the fewer independent MNOs to supply MVNO services will be critical to preserving competition at the retail level.

4.30 Mobile spectrum is also highly concentrated and is currently split primarily between the four MNOs, with EE holding the largest amount of spectrum. BT also holds a small (but highly valuable) amount of 4G spectrum in the 2,600 MHz band. This is illustrated by Table 1 below.

position to BT following the merger – led the way with “convergent” packages (triple play and quad play) going from zero in 2011 to over 60% of its sales in 2014. Others operators followed suit so that by end 2014 nearly 70% of packages sold included a mobile line. In France, 42% of fixed broadband households already bundled mobile voice contracts with their fixed broadband service at the end of 2012, and the move has also been swift toward quad play, which grew to approximately 30% of bundles by 2013, forecast to increase to more than 40% in the next two years.

⁴¹ Virgin Media launched quad play bundles in May 2014 (<http://about.virginmedia.com/press-release/9428/virgin-media-goes-big-with-uks-first-true-quad-play-bundles>), while in October 2014, TalkTalk announced that it was adding a “free” mobile SIM with inclusive minutes, texts and data to its TV Plus bundle (<http://www.talktalkgroup.com/press/press-releases/2014/mobilecomesasstandard.aspx>). EE launched a TV proposition in November 2014 to complete its quad play offering: <http://ee.co.uk/our-company/newsroom/2014/11/06/groundbreaking-new-ee-tv-service-now-available-from-ee-stores>

Table 1: Spectrum allocation in the UK (all figures in MHz)

Band	Vodafone	EE	O2	Three	BT ⁴²
800 (LTE)	2 x 10	2 x 5	2 x 10	2 x 5	-
900 (GSM/HSPA)	2 x 5 2 x 4.6 2 x 7.8	-	2 x 5 2 x 4.6 2 x 7.8	-	-
1800 (GSM/LTE or GSM/HSPA)	2 x 5.8	2 x 5 (expires 30 Sept 2015) 2 x 4.5	2 x 5.8	2 x 10 (2 x 15 from 1 Oct 2015)	-
2100 (HSPA)	2 x 14.8	1 x 10 2 x 20	1 x 5 2 x 10	1 x 5.1 1 x 14.9 1 x 14.6	-
2600 (LTE)	2 x 20 1 x 25 (unpaired)	2 x 35	-	-	2 x 15 1 x 20 (unpaired)

- 4.31 Given its strategic importance to competition at both the wholesale and retail levels of the sector (and as between MNO and MVNOs) mobile communications, and in hybrid solutions, the holding of spectrum resulting from both the BT/EE and Three/O2 mergers is an important issue for consideration.

5. IMPACT OF THE PROPOSED MERGER ON COMPETITION

- 5.1 The above key features of the communications sector are critical to understanding the concerns likely to arise from the proposed merger. As is conventional in competition analyses, Sky starts first in Section A with a discussion of the anti-competitive “horizontal effects”, i.e., the potential loss of competition arising from consolidation of competing or potentially competing assets of BT and EE. Sky then moves on in Section B to the anti-competitive “vertical effects” arising from the merged entity’s enhanced ability and incentives to favour its own downstream divisions at the expense of competing CPs. The vertical effects are especially important in the present case given the reliance of competition on regulation of access to BT’s unique communications infrastructure.

5 (A) Horizontal effects

- 5.2 The proposed merger will eliminate all current and prospective competition between BT and EE in (i) retail fixed broadband (standard and SFBB); (ii) mobile and hybrid mobility solutions; and of relevance to the competitive assessment in multiple markets will also be (iii) the consolidation of the spectrum holdings of BT and EE, with the BT/EE group controlling the largest spectrum allocation post-merger (even larger than the combined Three/O2 allocation).

(i) Loss of competition between BT and EE in retail fixed broadband

- 5.3 EE, along with Virgin Media, Sky and TalkTalk, is one of the few competitors seeking to challenge BT’s leading market position in the retail supply of broadband to end customers in the UK. As shown in Table 2 below, while EE’s share of fixed broadband connections in 2013 was modest at around 3% (about 700,000 customers), it has succeeded in

⁴² Via its subsidiary Niche Spectrum Ventures Limited.

maintaining this share since 2011, while small competitors including Tiscali, O2 and Tesco have exited the market or been acquired. Indeed, EE's customer base has been growing in recent months, with subscriber numbers increasing from 700,000 in 2013 to close to 850,000 in Q4 2014.⁴³ BT's market share has grown consistently from around 26% in 2008 to c.31% in 2013.

Table 2: Retail broadband market shares – all technologies and products

	2008	2009	2010	2011	2012	2013
BT	26%	27%	28%	29%	30%	31%
Sky	11%	13%	15%	18%	19%	20%
Virgin Media	23%	23%	22%	21%	21%	20%
TalkTalk	16%	23%	20%	18%	17%	15%
EE	6%	5%	4%	3%	3%	3%
Others	18%	10%	10%	10%	10%	10%

Source: Ofcom 2014 Communications Market Report

- 5.4 While the increment in share appears modest, the CMA should consider especially carefully the impact of the proposed merger on SFBB.⁴⁴ Given the rapid transition from standard fixed broadband to SFBB (discussed above), competitive positions in SFBB are likely to be a more accurate guide to future competition between fixed broadband providers than their current market shares in retail broadband overall. BT's rate of conversion of its broadband customers to SFBB is much higher than any of its competitors: it has already converted 2.1 million customers to SFBB, out of its total retail broadband subscriber base of around 7.1 million. It is logical to expect that the additional broadband customers BT will acquire from EE⁴⁵ will be quickly upgraded to SFBB, further increasing BT's hold on the important SFBB part of the market (which in 2014 Q1 was around 2.7m). In addition, the merged entity will have access to the full EE customer base of c.31m customers, to whom SFBB can be sold.
- 5.5 The loss of horizontal competition in SFBB caused by the proposed merger also needs to be assessed in light of the vertical SFBB issues, so that the impact of the merger on BT's incentives and strategy to re-install its dominance at the retail level overall can be fully

⁴³ As noted in BT's presentation on the acquisition of EE dated 5 February 2015, slide 10 (available at <http://www.btplc.com/Sharesandperformance/Presentations/downloads/EEAnnouncementPresentationFINAL.pdf>).

⁴⁴ Sky notes that the French Autorité de la Concurrence defined a separate market for high-speed broadband in its decision in *SFR/Numéricable* (http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=591&id_article=2444); and that this approach is supported by Ofcom's position as notified to the Commission in its recent Fixed Access Market Reviews: Approach to the VULA margin draft statement (**FAMR**) that "...it is important to focus on the position in the supply of superfast broadband. This is because, as take-up of superfast broadband increases, the landscape of the retail broadband market is likely to shift. In particular, consumer perceptions may well change such that more consumers consider superfast broadband a more differentiated service from standard broadband. This would weaken the competitive constraint exerted by standard broadband. In such a scenario, it is important for consumers that effective competition exists between superfast broadband retailers." (at paragraph 3.86).

⁴⁵ These are 834,000 in total, though no data is publicly available on the proportion of EE's existing broadband subscriber base currently taking SFBB.

understood (see further Section B (ii) below). The fact that BT specifically controls inputs necessary for fixed SFBB and benefits from “lighter-touch” regulation (relative to standard broadband) is a material concern as the market is transitioning to SFBB, and against a background where assets for mobile broadband are either being integrated into BT (EE) or consolidating going forwards (Three/O2).

(ii) *Loss of competition between BT and EE in mobile services and mobility solutions*

- 5.6 The proposed merger will eliminate any current competition between BT as an MVNO on EE’s network, and EE itself in the provision of mobile voice and data services. Even more important will be the loss of potential competition both in the provision of traditional mobile voice and data services, and hybrid network mobility solutions.
- 5.7 The merger clearly internalises any existing competition that – in a world where fixed and mobile broadband are at least to some extent competing – existed between EE as the market-leading mobile broadband operator and BT as the fixed broadband incumbent. In view of the speeds offered by 4G and 4G+ services, arguably any competition extended beyond standard fixed broadband and included to some degree SFBB services.
- 5.8 Prior to the merger, BT was challenging the MNOs as a “super MVNO” using an “inside-out” strategy that exploited its unique advantages. These unique advantages over “ordinary” MVNOs would have made BT a highly effective competitor to the MNOs in terms of both innovation and price. BT’s unique advantages as a “super MVNO” are broadly as follows:
- (a) it already has a strong presence inside homes and businesses through its fixed broadband offering which enables easy deployment of femto cells and Wi-Fi hotspots.
 - (b) BT also already owns the sites (cabinets and poles) where small cells can be located. Small cells can be added to these sites at a relatively low incremental cost compared to increasing macro cell capacity.
 - (c) Cabinets are already powered, and where they have a fibre link, data can be carried to the local exchange via fibre and then over the core fibre network. This enables more data to be carried (overcoming macro cell limitations) and allows leveraging of the existing fixed network which significantly reduces the costs of backhaul.
 - (d) Such an approach also reduces payments to the host MNO by carrying data off the macro cells and onto the femto cells/Wi-Fi hotspots and then onto the backhaul network.
 - (e) BT is starting to build out its fibre network from the cabinet to distribution points (e.g. poles) nearer to the home (**G.Fast**). This would enable data to be carried off mobile small cells onto the fibre network closer to the home and would have increased speed/capacity and immediately saved on variable data/traffic costs under a MVNO agreement. These immediate savings in operating costs could have translated into savings for end consumers in mobile pricing.

- 5.9 Conversely, operators without the benefit of their own street furniture need to obtain and negotiate access to this, or deploy their own civil infrastructure, and also need to obtain fibre backhaul from the street cabinet to the local exchange.⁴⁶
- 5.10 Indeed, BT had been extolling the virtues of its “inside-out” network strategy (over the “outside-in” strategies of MNOs), pointing to various relative advantages in terms of “site availability, cost per subscriber, power, connectivity and increased capacity” (see **Annex 2**, “The future of fixed is...mobile”). BT was thus very well positioned to develop its alternative ‘super MVNO’ hybrid mobility solution– *in direct competition with EE and other MNOs* and, in the absence of the proposed merger, BT would have very much redoubled its efforts to counter competition from them.
- 5.11 A similar entry strategy to BT’s was pursued successfully by Free in France, dramatically changing the landscape of the French mobile industry. Free used a national roaming agreement (technically similar to an MVNO agreement) with Orange to provide area coverage, while acquiring spectrum at 2.1 GHz, 2.6 GHz and 900 MHz and building its own sites at high-traffic locations. This “leopard skin network” allowed Free to reduce traffic payments to Orange, while avoiding the high costs of area coverage. BT would have enjoyed similar cost advantages, as noted by its chief executive, Gavin Patterson who said that the new technology allowing traffic to be offloaded to BT’s Wi-Fi network would make BT’s network “*pretty cost effective*” and that:
- “We think we’ll be able to get the majority of people’s usage onto our network. And where we can’t, they’ll be able to roam seamlessly onto the arrangement we’ve got with EE.”⁴⁷*
- 5.12 Following the merger, BT claims that it would still pursue a femto cell strategy,⁴⁸ but this would seem to be primarily aimed at capital expenditure savings for its mobile business at the infrastructure level. Capex savings would materialise as long as capacity at the femto cell level, e.g. using 2.6GHz spectrum, was cheaper than the addition of capacity at macro cell level, which uses congested sub 1GHz spectrum. It is not clear whether or how long these capex savings would take to materialise, as compared to the immediate opex savings in variable costs BT would have generated under its MVNO with its “inside-out” strategy. Moreover, given that the capex savings would be at the infrastructure level, where there is less competition, they may be less likely to translate into retail price savings for the end customer.
- 5.13 As well as reducing the competition that would have been faced by MNOs in the provision of traditional mobile voice and data services, the BT/EE transaction will also result in the loss of competition in hybrid network mobility solutions. While BT had been actively pursuing the development of a ‘super MVNO’ hybrid mobility solution, EE was itself well placed to deliver its own hybrid network mobility solution using its existing fixed line broadband offering in combination with its extensive 4G mobile data network. The proposed merger would therefore remove potentially significant competition (e.g. in terms

⁴⁶ CPs could potentially use sub-loop unbundling (SLU) for this purpose or BT’s new MIIS product and may use Openreach’s street access service for backhaul from the exchange or new products may need to be developed by Openreach to allow for this.

⁴⁷ BT’s CEO, discussing BT’s mobile plans at its annual results event in May 2014. Daily Telegraph of 5 October 2014: *BT mobile network hit by technical hurdles: Attack on mobile operators could be delayed until next financial year over fears calls will be interrupted in Wi-Fi ‘handover’*, available at <http://www.telegraph.co.uk/finance/newsbysector/mediatechnologyandtelecoms/telecoms/11142047/BT-mobile-network-hit-by-technical-hurdles.html>

⁴⁸ As indicated during BT’s Q3 2015 Earnings Call on 30 January 2015.

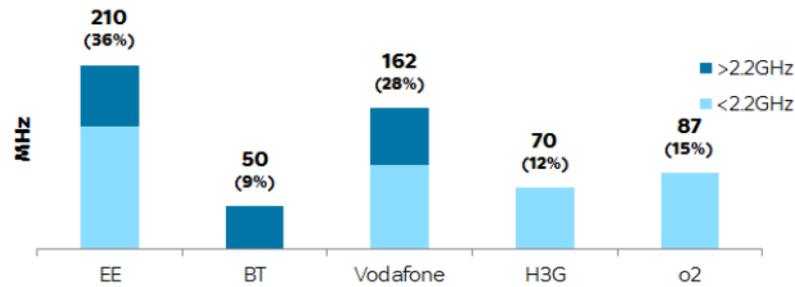
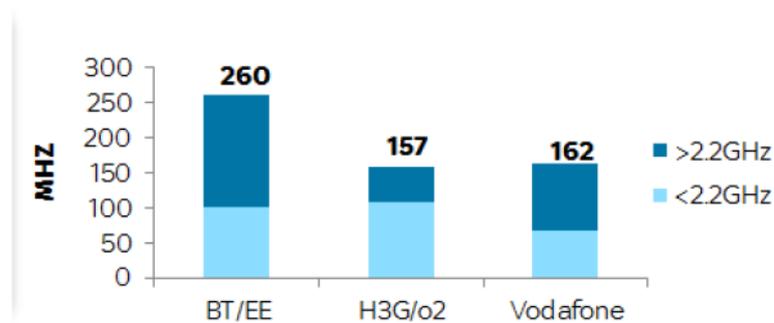
of the technical innovations that would have been brought to consumers) between BT and EE in the provision of hybrid network mobility solutions.

(iii) Consolidation of spectrum ownership

- 5.14 The CMA should also take closely into account the effects of the proposed merger and further consolidation on current and future mobile spectrum allocations, given the strategic importance of spectrum to competition in mobile (and hybrid) telecommunications markets.
- 5.15 To date, Ofcom has sought to preserve at least four MNOs as the minimum considered necessary to ensure effective wholesale and retail competition, and to ensure a broad allocation of spectrum as between the four operators. That minimum of four operators has been considered necessary to maintain effective MVNO competition:
- (a) In the 2000 3G auction, the largest allocation was reserved for a new entrant, resulting in Hutchison (which subsequently launched the Three network) paying a price of £4.3bn against Vodafone's £5.9bn for a similar sized licence.
 - (b) The 2012 4G auction was delayed by several years until Ofcom could guarantee allocation of certain spectrum to a 'fourth national wholesaler', Hutchison. Without this 4G spectrum, Ofcom feared that Hutchison would not be able to continue to compete. Ofcom also included a "spectrum cap" within the auction rules, limiting the maximum amount of relevant spectrum an operator could hold to 2x105 MHz (EE acquired the maximum amount permitted under this cap).
 - (c) Ofcom's consultation on the future 2.3 and 3.4GHz auction confirms that it continues to view having competition between at least four credible national wholesalers as in the best interests of consumers. Moreover, Ofcom considers this to be a pre-requisite for MVNO access on terms that enable them to compete effectively.⁴⁹
- 5.16 The immediate effect of the proposed merger will be to add BT's holding of 4G spectrum (2x15 MHz and 1x20 MHz in the 2.6 GHz band) to EE's 4G holding, already the largest in the market. This is concerning in itself, since it will result in the merged entity exceeding the overall spectrum cap Ofcom imposed during the 2012-13 4G spectrum auction in order to preserve competition.⁵⁰ This limited any single operator to a maximum of 2x105 MHz spectrum overall; an amount which EE already holds. In percentage terms, the combined entity will hold 43% of allocated spectrum, far more than the remaining MNOs (including even the combined O2/Three). These points are illustrated by Figures 1 and 2 below, showing current spectrum holdings and the position following the completion of the proposed merger and the Three/O2 deal.

⁴⁹ See Ofcom, Public Sector Spectrum Release (PSSR) – Award of the 2.3GHz and 3.4 GHz bands, 7 November 2014, section 7 (available at http://stakeholders.ofcom.org.uk/binaries/consultations/2.3-3.4-ghz-auction-design/summary/2_3_and_3_4_GHz_award.pdf).

⁵⁰ See paragraph A2.21 of Ofcom's Statement on the making of regulations in connection with the award of the 800 MHz and 2.6 GHz spectrum bands, 12 November 2012.

Figure 1, current mobile spectrum holdings**Figure 2, post-consolidation mobile spectrum holdings**

Source: Ofcom data; Sky analysis

- 5.17 The competitive implications of the merged entity's spectrum holdings should be considered carefully, taking into account the breach of Ofcom's 4G auction cap caused by the merger on the integrity of the 4G auction and future spectrum auctions. Looking forward, absent the proposed merger, BT would have been a credible independent bidder for spectrum in future auctions, as demonstrated by its success in bidding for, and willingness to pay a substantial sum (£186 million) for spectrum in the recent 4G auction. In particular, BT could have used the upcoming 2.3 GHz and 3.4 GHz auction (on which Ofcom is already consulting⁵¹) to bolster its "inside-out" strategy. Furthermore, in the medium term, it is likely that 700 MHz spectrum will become available, since it has already been standardised for mobile use.
- 5.18 As discussed further below in Section B, the negative impact of the proposed merger in areas where BT and EE were current or prospective competitors will be amplified by its impact on the incentives of the combined BT/EE to provide access to inputs (such as fixed line backhaul services and mobile data networks) that are necessary for competitors to be able to compete in the provision of hybrid network mobility solutions. The proposed merger can therefore be expected to give rise to a material loss of current and/or future competition in retail fixed broadband, retail mobile and hybrid mobility solutions. This is reinforced by a large increase in spectrum holdings that are key strategic assets for the supply of mobile/hybrid services [REDACTED]

⁵¹ Ofcom, Public Sector Spectrum Release – Award of the 2.3 and 3.4 GHz bands, 7 November 2014, available at http://stakeholders.ofcom.org.uk/binaries/consultations/2.3-3.4-ghz-auction-design/summary/2_3_and_3_4_GHz_award.pdf.

5(B) Vertical effects

5.19 The proposed merger is also likely to create significant anti-competitive vertical effects, by enhancing the merged entity's ability and incentives to favour its own downstream operations at the expense of competing providers. Concerns specifically arise in the following areas:

- (i) the intensification of existing incentives to favour BT's downstream activities in fixed broadband, increasing pressure on the already strained regulatory regime;
- (ii) the enhanced ability and incentives for BT to undermine competing providers' ability to compete in the key area of SFBB where the merger has the potential to render the complex proposed regulation of BT's margins unworkable;
- (iii) the extension of BT's incentives into mobile, and the impact of such incentives in the key area of backhaul services crucial to the ability of mobile, fixed and hybrid operators to meet the challenges posed by the exponential growth in consumer demand for data; and
- (iv) the alteration in EE's incentives to host MVNOs on its network, particularly those pursuing triple or quad play strategies given the reduced differentiation between those providers and the merged entity.

5.20 Sky explains each of these concerns in more detail below.

(i) Intensification of BT's already strong incentives to favour its downstream operations

5.21 As explained in Section 3 above, the continued ownership by BT via Openreach of the only ubiquitous national fixed line telecoms infrastructure, in combination with substantial downstream businesses which account for the large majority of BT's revenues, creates overwhelming incentives for BT to favour its downstream operations. This has placed a strain on the existing regulatory regime.

5.22 The addition of a substantial additional consumer business into BT's downstream operations will intensify these incentives, not least because the proportion of total group revenues that BT's downstream operations will account for will substantially increase, with a corresponding decrease in the proportion of total revenues accounted for by Openreach. This will place even greater pressure on the already strained regulatory regime.

5.23 Based on Sky's experience to date (as above in paragraph 4.11), the merger is likely to intensify BT's ability and incentives to favour its downstream operations and to exacerbate distortions in cost allocation, product development and investment priority.

- (a) With a greater basket of unregulated assets, the danger is that BT will use its expanded scope of activity to shift more costs (e.g. from its new mobile division) onto regulated products consumed by its rivals, thereby raising their costs. For example, if BT uses a street cabinet for installing the controlling units of LTE base stations (**eNode B**), it would have incentives to continue to allocate costs of the cabinet to GEA or WLR and MPF rather than its mobile division.
- (b) BT is also likely to prioritise the development of products that its new downstream division will consume, at the expense of products that other CPs consume, thereby reducing competition at the retail level, ultimately to the detriment of consumers.

- (c) The broader scope of its consumer portfolio results in incentives for BT to bias its investment strategy away from projects that also benefit fixed/converged rivals and towards projects that disproportionately benefit BT/EE, as the number of investment projects competing for BT's resources will increase.
- (i) BT could invest in vectoring and G.Fast (building fibre to the distribution point⁵²), as BT had intended before the EE acquisition and/or it could build this out in a way that benefits its new mobile division;⁵³ or it could alternatively build on its 4G network lead and deploy as yet unused frequencies, which in contrast to fixed investments do not carry regulatory access obligations;
 - (ii) it could further invest in building a small cell network layer, for which there are significant cost synergies between BT's fixed and mobile networks;
 - (iii) it could invest in acquiring additional frequencies in the forthcoming 2.3 GHz / 3.4 GHz auction;⁵⁴ and/or
 - (iv) BT can also be expected to continue its bias in favour of investment in SFBB over pro-active maintenance of its copper and duct network and, as a result of the merger, to bias that investment in favour of its new downstream mobile division.

5.24 The merger is likely to exacerbate BT's incentives to favour its downstream operations, therefore, and to place the already strained regulatory regime under increasing pressure. Unfettered, the merger would harm the long-term ability of competitors relying on the regulatory regime to compete. Ultimately, this risks unravelling the many consumer benefits generated by the downstream competition fostered by the regulatory regime to date.

(ii) Additional strain on the already complex proposed regulation of SFBB

5.25 The proposed merger raises particular concerns in relation to SFBB. Parties wishing to compete with BT in the provision of SFBB at the retail level must first purchase the necessary access input from Openreach, GEA. Unlike the wholesale inputs for standard broadband⁵⁵ GEA is not subject to price control, but instead a fair and reasonable charges obligation (see further **Annex 1**).

5.26 The pricing flexibility BT has enjoyed has enabled it to charge significantly higher wholesale prices (potentially forgoing higher Openreach revenues) for GEA whilst charging only a small price increment (particularly when taking into account BT Sport bundled for free) over the price of standard broadband at the retail level. This increase in wholesale charges is illustrated in Table 4 below, which shows the price of SFBB inputs provided by

⁵² BT has already announced limited trials of G.Fast.

⁵³ See 2014 Q3 Investors' call earnings transcript.

⁵⁴ While BT and EE's combined spectrum holding would exceed the 4G auction cap, as noted above; it would be some way below the 310 MHz cap proposed in Ofcom's consultation on the design of the 2.3/3.4 GHz spectrum auction (Public Sector Spectrum Release – Award of the 2.3 and 3.4 GHz bands, 7 November 2014, available at http://stakeholders.ofcom.org.uk/binaries/consultations/2.3-3.4-ghz-auction-design/summary/2_3_and_3_4_GHz_award.pdf).

⁵⁵ Excluding wholesale broadband products provided by BTW.

Openreach (these charges must be paid in addition to existing charges for either WLR currently at £91.05 or LLU at £86.11 per year).⁵⁶

Table 4: Pricing of Openreach GEA wholesale products

Feature	Annual rental (£, excl. VAT)
Up to 40Mbit/s downstream and up to 2Mbit/s upstream	82.80
Up to 40Mbit/s downstream and up to 10Mbit/s upstream	88.80
Up to 80Mbit/s downstream and up to 20Mbit/s upstream	119.40

- 5.27 This pricing strategy has directly benefitted BT Consumer by enabling it to establish a far higher share of SFBB (its share of retail SFBB subscribers using BT's access network remained at 78% in Q1 2014) than its overall share of the retail broadband market (39% of all broadband subscribers serviced over BT's access network, i.e. excluding Virgin Media⁵⁷). In proposing to introduce regulation of BT's margins on retail SFBB bundles, Ofcom was indeed concerned at the rate of BT's SFBB additions adding to its already high share. Thus in the FAMR, Ofcom states that:

"BT has to date been winning a substantial share of VULA-based retail superfast broadband subscribers (as set out in paragraph 3.18, BT achieved approximately 69 per cent of the net VULA additions in 2013/14, down from 84 per cent in 2012/13). While BT's share of net VULA additions is now lower, in Q3 2014 BT still achieved approximately 59 per cent of the new VULA connections supplied by Openreach and was retailing at least 74 per cent of all VULA connections."⁵⁸

- 5.28 Moreover, Ofcom appeared alert to the opportunity (that BT appeared itself fully cognisant of) for BT to re-establish a dominant market position at the retail level afforded by the transition from standard to SFBB services.⁵⁹ Accordingly, the aim of the VULA⁶⁰ margin SMP condition is to ensure that BT does not set the GEA margin such that it prevents an operator with slightly higher costs than BT from being able to profitably match BT's retail SFBB offer. Essentially, the test will require BT to have a sufficient margin between the retail prices and wholesale costs of its SFBB bundle.
- 5.29 But the proposed VULA margin SMP condition is a complex and untested piece of regulation and, even absent the merger, BT has the ability to undermine its effectiveness, for example through changes in cost and revenue allocation. Such opportunities will be enhanced by the addition of the UK's largest mobile division to BT's consumer business

⁵⁶ See <http://stakeholders.ofcom.org.uk/binaries/telecoms/ga/fixed-access-market-reviews-2014/statement-june-2014/volume1.pdf>

⁵⁷ It is appropriate to consider a frame of reference that excludes Virgin Media. As its network passes under half of UK households (according to Ofcom – see p.331 of the Communications Market Report 2014), it is simply not an alternative to GEA-based SFBB using BT's network for a large proportion of the UK population. Furthermore, even where Virgin Media is an available alternative, the dependency of operators other than Virgin Media on inputs from BT has a significant impact on the nature of competition between them as against competition with Virgin Media.

⁵⁸ FAMR, at paragraph 3.55.

⁵⁹ See, for example, paragraphs 3.64 – 3.70, which appear to indicate that BT forecasts that it will achieve a high share of superfast broadband customers.

⁶⁰ VULA refers to Virtual Unbundled Local Access, known as GEA in Openreach's terms.

portfolio, substantially increasing the scale and scope of services across which changes in costs and revenue allocations can be made. Moreover, although the proposed VULA SMP margin condition can accommodate the inclusion of additional services, it becomes increasingly unwieldy and unreliable as the number of required adjustments increase, with greater opportunities for BT to undermine its effectiveness. The merger is therefore likely to strain the already complex proposed regulation of BT's margins on SFBB, rendering it potentially unworkable, unreliable or ineffective.

- 5.30 Furthermore, the acquisition of EE gives BT the potential to spread the wholesale costs of its SFBB bundles more widely across the enlarged customer base, making it easier to pass the test. For example, were BT to extend the BT Sports offer to EE customers, it could significantly reduce the implied net cost of BT Sport to be allocated to SFBB subscribers and therefore the average BT Sport cost for the purposes of the margin test will be reduced.
- 5.31 These concerns suggest that, at the very least, the VULA test would need to be modified to account for such "scale effects" and also be carefully monitored to ensure that BT cannot undermine its effectiveness through changes in cost and revenue allocations. It will be important for the CMA to satisfy itself that the already complex and untested regulation of BT's margins in SFBB is not weakened or undermined by the way in which the merger impacts BT's pricing of SFBB at the retail level, and GEA at the wholesale level. More fundamentally, it will be important for the CMA to satisfy itself that the proposed margin condition is not rendered ineffective.

(iii) Extension of incentives into the mobile sector

- 5.32 The proposed merger is also likely to extend BT's incentives to distort downstream competition into the critical area of mobile backhaul services.
- a. The merged entity's ability and incentive to harm mobile operators*
- 5.33 The significant growth in bandwidth demand combined with increased access speeds (with 4G) requires investment by MNOs in their network infrastructure and capacity. A large part of this investment will be in the backhaul network (which carries voice and data traffic from the mobile base stations to the MNOs' core networks), including to support a proliferation of small cells contributing to hybrid networks.
- 5.34 MNOs depend on Openreach (either directly or via BTW managed products) for backhaul. As noted above, Openreach is by far the largest and most ubiquitous provider of backhaul services to mobile operators. As such, BT has the ability to harm MNOs (and, by extension, the MVNOs on their networks) by worsening the terms on which it provides these services.
- 5.35 Although Openreach is subject to regulation, this does not sufficiently constrain BT's ability to engage in such discrimination. For example, all mobile operators purchase a managed service, MEAS, provided by BTW (which is unregulated - see paragraph 2.2 above). Mobile operators buy the managed product since they need to connect a large number of base stations, many of them with small volumes of traffic and in rural areas. While they could connect all their sites through the regulated Openreach product (EAD), BTW has the advantage of economies of scale and scope which can be passed on to EE once it is integrated with the BT network. There is therefore significant scope for BT to favour EE post-merger.
- 5.36 While BT already has the ability to harm mobile operators due to its dominant position in backhaul and the flexibility which BTW has in relation to the provision of MEAS, the

proposed merger will strengthen this ability further. MBNL (in which EE is a partner) sources mobile backhaul partly from Virgin Media (it still needs to rely on BT).⁶¹ But BT expects to realise c£360m per annum in cost synergies, *inter alia* from network savings derived from insourcing network elements.⁶² These are likely to include savings from the procurement of backhaul by EE from Virgin Media (either direct or via MBNL), to be procured instead from BT post-merger. By capturing EE's demand (the largest of all the mobile operators), BT will substantially reduce the contestable custom for backhaul services, thereby strengthening the existing market power of Openreach/BTW (EE also purchases managed wholesale services from BTW) and reducing that of its competitors (e.g. Virgin Media). The merger is therefore likely to weaken MBNL meaning BT will face an even weaker constraint on its pricing of MEAS.

5.37 The key effect of the proposed merger in this area, however, will be to create an *incentive* for BT to favour its new integrated mobile operations (EE). Any incentives BT had to discriminate in the provision of backhaul services against MNOs (as a "super MNVO") will be significantly enhanced by the addition of a MNO into its consumer portfolio.

b. Potential discriminatory strategies relating to macro cell backhaul

5.38 With respect to the provision of backhaul services on more established macro cell networks, as a result of BT's (via Openreach) SMP and lack of regulation of BTW in the provision of backhaul services, BT's mobile division could benefit in the following ways:

- (a) it will likely be able to exert a greater influence over backhaul product development, process changes and investment priorities than its competitors,⁶³ enabling it to secure faster and more effective product development that supports its requirements over those of other mobile operators;
- (b) Openreach could hinder or refuse to develop products requested by competing mobile operators or favour the development of more limited active products over "raw" or passive products (such as access to dark fibre) which would provide a greater ability for CPs to innovate and differentiate products and services;
- (c) by having greater access to information on major developments relating to mobile backhaul products (such as product feature changes, technical information and price changes) earlier than competing mobile operators, giving BT a significant competitive advantage in a market driven by technological developments;
- (d) Openreach could price and/or package backhaul products in such a way to give its downstream arm a competitive advantage; and/or
- (e) BT could internally allocate costs between products so as to improve its ability to compete against other mobile operators.

5.39 EE will also benefit from a significant cost advantage due to the lack of access to Openreach's dark fibre for other competing providers. 4G Ethernet routers located at base stations are now usually capable of sending a signal over a sufficiently long distance

⁶¹ Ofcom Business Connectivity Market Review, Statement of 28/3/2014, Issue 4.a, "Mobile Backhaul", 4.285 et seq.

⁶² See BT presentation on the acquisition of EE, 5 February 2015, slide 20, available at <http://www.btplc.com/Sharesandperformance/Presentations/downloads/EEAnnouncementPresentationFINAL.pdf>

⁶³ This is magnified by what wholesale customers often perceive as an ineffective consultation process during the planning and development of new products.

to reach the core network of a mobile operator. In order to backhaul from the base station to the core network in these situations, only a passive dark fibre product from Openreach is necessary. But Openreach does not offer such a product.

- 5.40 Moreover, while Openreach is subject to a non-discrimination obligation, there is a risk that BT will find a way to create a bespoke “active” product to support EE base stations. These will not benefit competing MNOs who will likely have differing backhaul requirements supported by other Openreach active backhaul products. This could significantly lower EE’s backhaul costs, while other mobile operators would continue to be saddled with costs for Ethernet routers that, in some instances, they do not require.

c. Additional concerns relating to small cell networks / HetNets

- 5.41 A further concern resulting from the proposed merger arises in the context of the emergence of HetNets and the use of small cell wholesale networks. The merger would create the UK’s largest small cell network operator (through the combination of BT’s 5 million Wi-Fi hotspots and EE’s existing small cells). Competitors seeking to develop their own small cell network / HetNet would also be reliant on the merged group (i.e. Openreach and BTW) for provision of the extensive backhaul services necessary to support such networks. This is reinforced by the fact that, given the speed of the LTE air interface, the more lightly regulated SFBB is a superior backhaul solution for femto cells than standard broadband.

- 5.42 Given the significant competitive advantage of having the largest small cell network, the merged entity would have a significant incentive to exploit its position in backhaul to prevent the emergence of competing small cell networks that could undermine its competitive advantage. The merged entity could do so in a number of ways, including:

- (a) building-out fibre infrastructure so as to optimise connections with BT/EE’s small cells (and to increase offload capacity for femto cells) at the expense of competing small cell networks;
- (b) prioritising investment and the development of small cell mobile backhaul products to suit the new mobile division at the expense of investments in infrastructure more frequently used by competitors (for example, Openreach has scope to favour EE post-merger by developing its current MIIS product to suit its downstream division at the expense of competing MNOs); and/or
- (c) discriminating against competitors in respect of terms of access to the small cell backhaul network, including price, service quality and fault repair (e.g., provisioning times, reliability, ease of ordering etc.) so as to raise rivals’ costs.

- 5.43 These factors, combined with EE’s large customer base and its holding of most of the suitable spectrum for small cell networks/hybrid mobility solutions, will give the merged entity a significant advantage in the development of next generation small cell networks. The CMA will need to assess carefully the impact of the proposed merger on the development of these networks.

(iv) Reduced incentives to host MVNOs

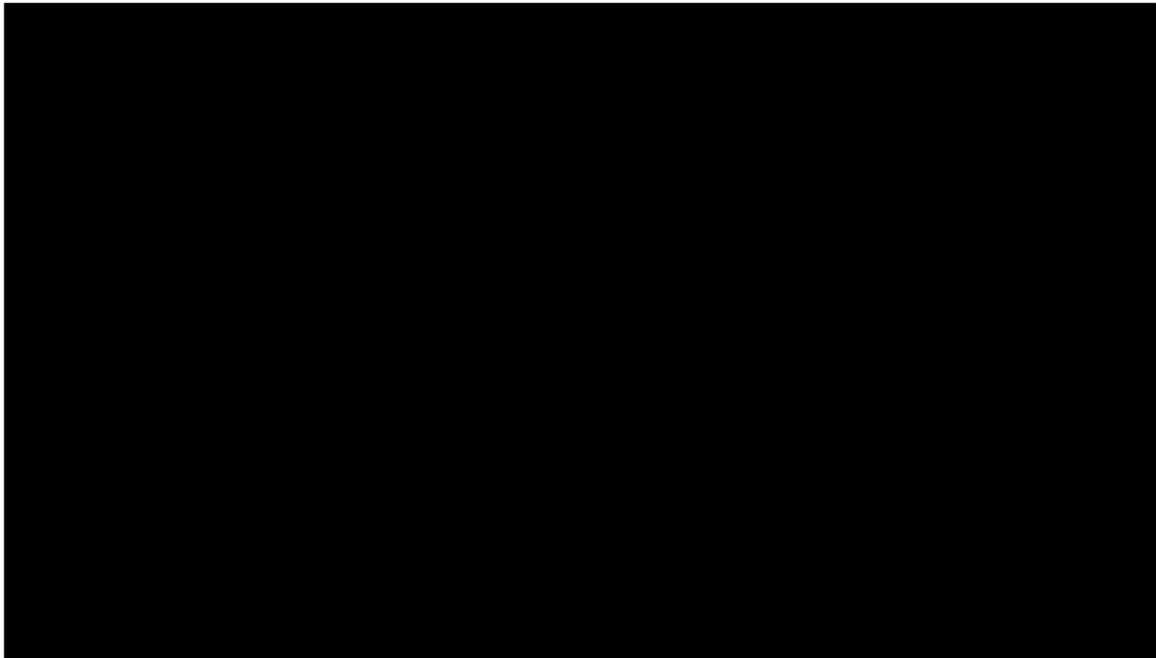
- 5.44 The proposed merger will also reduce the combined group’s incentives to host MVNOs on EE’s mobile network. This is because an MNO is incentivised to host a MVNO when the trade-off between gaining additional wholesale revenues against cannibalising its own retail sales is positive, which is in turn related to the degree of differentiation between the

MNO host and the MVNO.⁶⁴ The addition of BT's retail TV activities to EE's existing fixed line voice, broadband and mobile network offerings reduces the degree of differentiation between the merged entity and potential MVNO customers making it less likely to host the MVNO.

5.45 This is particularly the case where the MVNO is a triple or quad play competitor. As the bundling of BT Sport with fixed line voice and broadband is already a key part of BT's strategy, it can be expected post-merger to offer 'quad play' bundles of TV, fixed line voice, broadband and mobile services. As highlighted above, experience from other EU member states as well as BT's stated intentions suggest that BT will compete aggressively in the provision of quad play bundles, which may in turn drive a significant proportion of the market to purchase such bundles. The integration of BT and EE therefore has the potential to accelerate greatly the progress towards convergent quad play offers, making it important for other suppliers to be able to match these bundles; at the same time, it reduces the merged entity's incentives to host MVNOs - thereby affecting their ability to compete effectively with such offers in the coming years. This is likely to be most pronounced in respect of incentives to host MVNO competitors offering triple or quad play bundles (such as Sky). There is a real risk that such incentives would be diminished by the proposed merger.

5.46 Most MVNO contracts require renewal at regular intervals [REDACTED]. [REDACTED]. With reduced incentives on the part of the merged entity to host MVNOs and the proposed consolidation between Three and O2 removing another potential provider of MVNO services from the market, there are very real concerns in respect of the future competitiveness of MVNO hosting.

5.47



5.48

⁶⁴ This potentially explains why EE was prepared to strike a deal to host BT, as BT initially focused on services to SMEs and why tensions may later have arisen: "Executives close to the process said it had become evident last summer that a wholesale relationship allowing BT to use EE's network was not going to be easy." [Financial Times: BT-EE deal sets stage for Europe telecoms reshuffle, 5 February 2015](#)

Annex 1

The complex regulatory regime governing access to BT's unique infrastructure

A1.1 This Annex summarises the underlying regulatory regime that governs access to the essential wholesale inputs provided by BT, via Openreach, to Sky and other CPs.

The Undertakings and SMP regulation

A1.2 The provision of the essential access and backhaul wholesale inputs relied upon by Sky and other CPs by BT is regulated pursuant to a complex regime involving a combination of the BT Undertakings and *ex ante* **SMP** telecommunications regulation governed by the EU telecommunications framework and the Communications Act 2003.

A1.3 The Undertakings were agreed between BT and Ofcom in 2005 following Ofcom's Strategic Review of Telecommunications (**TSR**) and resulted in the creation of Openreach, BT's access network division. Openreach is functionally separate from the rest of BT and is responsible for nearly all of BT's access infrastructure (including the copper network, NGA network as well as ducts, poles and other civil infrastructure).

A1.4 The Undertakings require Openreach to provide access to BT's fixed access and backhaul network and provide "raw" inputs/passive access and certain permitted active products on an Equivalence of Inputs (**Eol**) basis to allow alternative CPs to supply competing fixed and mobile communications services. Eol requires Openreach to offer all CPs access to the same products, processes and prices as it supplies to other BT downstream divisions (including BTW and the potential new downstream mobile division).

A1.5 Separate from the Undertakings, BT is also subject to *ex ante* SMP regulation which governs access to the essential wholesale inputs provided by Openreach to support fixed and mobile communications services. The relevant SMP remedies imposed by Ofcom on BT with regard to the provision of these services are set out in a number of market review and remedies statements made by Ofcom. The principal market reviews which govern the essential wholesale inputs impacted by the proposed merger are:

- (a) Fixed Access Market Review⁶⁵ (**FAMR**) which regulates among other services Openreach's provision of the inputs to support fixed broadband, superfast broadband and telephony services⁶⁶; and
- (b) Business Connectivity Market Review (**BCMR**)⁶⁷ which regulates among other services Openreach's provision of backhaul or leased lines required to support fixed and mobile broadband, data and telephony services for consumers and businesses. Sky, as an LLU operator, relies on Openreach for a significant proportion of its backhaul requirements and the MNOs rely on Openreach (or BTW which uses Openreach Eol inputs) for mobile backhaul services.

⁶⁵ See <http://stakeholders.ofcom.org.uk/telecoms/ga-scheme/specific-conditions-entitlement/market-power/fixed-access-market-reviews-2014/statement/>

⁶⁶ WLR is regulated in the FAMR under the findings of the Wholesale Fixed Analogue Exchange Lines market (**WFAEL**) which covers the supply of a telephone connection (typically a single 64 kbit/s channel) from an end customer's premises to a local aggregation point (e.g. a local exchange) and allows end-customers to consume telephony services in the form of telephone calls.

⁶⁷ <http://stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/final-statement/>.

- A1.6 Pursuant to these market reviews and policy interventions, Ofcom has imposed a complex range of behavioural ex ante SMP remedies on BT, including obligations to:
- (a) provide network access on reasonable request;
 - (b) offer fair and reasonable terms and conditions including charges unless another pricing obligation applies;
 - (c) not to unduly discriminate between customers;
 - (d) offer services on an EOI basis;
 - (e) publish a reference offer with the terms and conditions of supply;
 - (f) notify charges, terms and conditions and technical information;
 - (g) cost-orientation obligations;
 - (h) charge controls (this applies to LLU, WLR and certain leased line services but not SFBB)⁶⁸;
 - (i) publish quality of service information;
 - (j) offer minimum quality of service standards; and
 - (k) regulatory accounting transparency and separation.
- A1.7 Openreach provides the essential wholesale access inputs relied upon by Sky and other CPs. The key wholesale inputs provided by Openreach to CPs to enable the provision of competing standard and SFBB broadband services as well as mobile communications services are.⁶⁹
- (a) LLU - LLU allows CPs to rent whole or partial access to an end customer's copper line from their home to the local exchange to provide voice and/or data services using their own electronic equipment, which is deployed in BT's local exchanges.⁷⁰

⁶⁸ BT has benefited from a degree of regulatory forbearance in relation to the provision of VULA with no formal price regulation (other than a fair and reasonable charges obligation). However, we expect a new VULA Margin Condition to come into effect shortly.

⁶⁹ The principal Ofcom market reviews which govern the essential wholesale inputs impacted by the Proposed merger are: Fixed Access Market Review (**FAMR**) which regulates among other services Openreach's provision of LLU, VULA (GEA) and WLR <http://stakeholders.ofcom.org.uk/telecoms/ga-scheme/specific-conditions-entitlement/market-power/fixed-access-market-reviews-2014/statement/> and Business Connectivity Market Review (**BCMR**) which regulates among other services Openreach's provision of backhaul or leased lines required to support fixed broadband and telephony services and mobile services. Sky as an LLU operator relies on Openreach for a significant proportion of its backhaul requirements and the MNOs rely on Openreach (or BTW which uses Openreach EoI inputs) for mobile backhaul services. See <http://stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/final-statement/>

⁷⁰ LLU can be in the form of either Metallic Path Facility (**MPF**) or Shared Metallic Path Facility (**SMPF**). MPF provides access to both the low and high frequency range of the local loop, therefore allowing a competitor to provide consumers with voice and broadband services. SMPF provides only access to the high frequency part of the line allowing a competitor only to provide the end customer with broadband. Additional ancillary services are necessary to enable and support the provision of LLU, for example site access, space, power and tie cables.

- (b) WLR – WLR allows a communications provider to rent an analogue exchange line in order to offer retail line rental services to end customers. The communications provider may carry calls over the line provided by BT, itself or another supplier⁷¹;
- (c) VULA – (Openreach’s GEA product) – provides access to BT’s NGA network to enable the provision of SFBB services and is provided together with MPF or WLR;⁷² and
- (d) Ethernet backhaul services – Openreach provides wholesale leased line services with Ethernet or WDM⁷³ transmission equipment. LLU operators (like Sky, Talk Talk), BTW and MNOs use these services in their network to provide fixed and mobile services to end customers.⁷⁴

A1.8 Unlike LLU which is subject to a formal price control, BT has benefitted from a degree of regulatory forbearance in relation to the provision of GEA. To date, GEA has been subject to a light touch regulatory regime with no formal price regulation other than a fair and reasonable charges obligation. However, it is expected that a new VULA margin SMP condition will come into effect shortly. The VULA Margin Condition will require BT to have a sufficient margin between the retail prices and wholesale costs of its SFBB bundles.

⁷¹ CPs (including BT and EE) provide broadband using SMPF (shared LLU) and purchase WLR in order to provide telephony services whereas CPs that purchase MPF (full LLU (like Sky)) do not need to purchase WLR. [REDACTED]

⁷² Sky provides SFBB using a combination of MPF + GEA whereas BTW provides SFBB using WLR + GEA.

⁷³ Wavelength division multiplexing.

⁷⁴ BT faces limited competition in the provision of backhaul services mainly from Virgin Media, Vodafone and Colt who do not have a ubiquitous national network footprint like BT.

Annex 2: BT's super MVNO "inside-out" network strategy

A2.1 BT had experimented in recent years with various products intended to leverage its strong position in fixed line broadband into space occupied by the MNOs. Whilst earlier attempts were of limited success,⁷⁵ more recent attempts have been more successful: for example, BT's Wi-Fi and SmartTalk services allowing BT customers to log into any one of its 5 million Wi-Fi hot-spots around the UK (including BT home routers, all of which are equipped to act as public hot-spots), and to make voice calls over Wi-Fi or a mobile data connection using an Apple or Android app have been successful.⁷⁶ The main constituent parts of BT's "inside-out" network are as follows:

- (a) Wi-Fi routers with built-in 4G femto cells in both business premises and homes, used for indoor data capacity (the "inside" part).
- (b) indoor femto cells installed in BT's Wi-Fi routers work with BT's existing network of 5m public Wi-Fi hot-spots (including BT home routers, all of which are equipped to act as public hot-spots) and outdoor small cells to increase capacity in outdoor urban locations.
- (c) small cells work with macro mobile cells (via BT's MVNO agreement with EE) to provide ubiquitous geographic coverage.
- (d) control of the access network from the home to the local exchanges - the copper line from the home to the street cabinet and newly upgraded fibre from the street cabinet to the local exchange.

where (b) to (d) together comprise the "outdoor" part of BT's network.

A2.2 In its May 2014 results presentation, BT provided further details of its "inside-out" network, in particular at slides 34 and 35

<http://www.btplc.com/Sharesandperformance/Quarterlyresults/PDFdownloads/q414-slides.pdf>

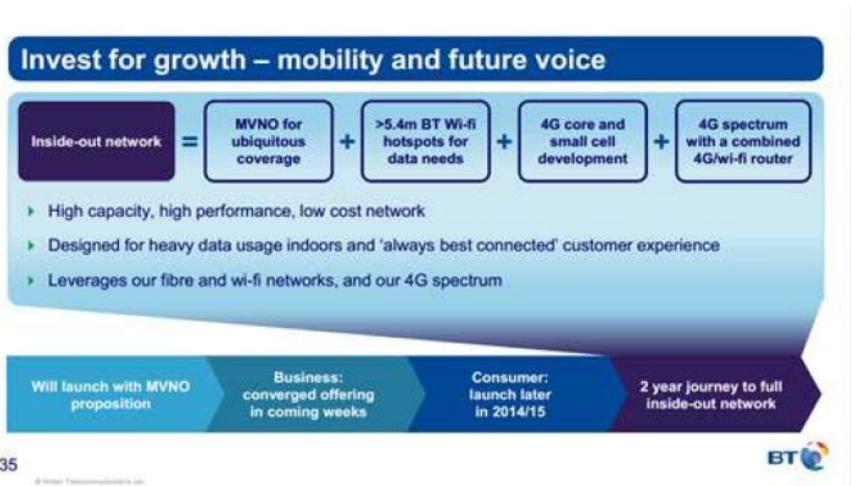
Invest for growth – mobility and future voice

- ▶ Our competitive advantage is the ability to create single converged offerings
 - combining fibre and 4G
 - distinct from 'quad play' marketing of linked products

For businesses	For consumers
<ul style="list-style-type: none"> ▶ Meets customer demand for a complete, converged fixed and mobile solution ▶ Single platform available wherever customers are ▶ Leverages BT's strong brand and connectivity among business customers 	<ul style="list-style-type: none"> ▶ Meets customer needs for fast and reliable data and voice services wherever they are ▶ Compelling propositions at competitive prices ▶ Leverages brand and existing channels to market

⁷⁵ BT's first attempt, BT Fusion, used Vodafone's network in the street but switched to the BT Wi-Fi network at home; however, this had limited success due to technical difficulties and a lack of handsets supporting the switch-over from the mobile network to the Wi-Fi network.

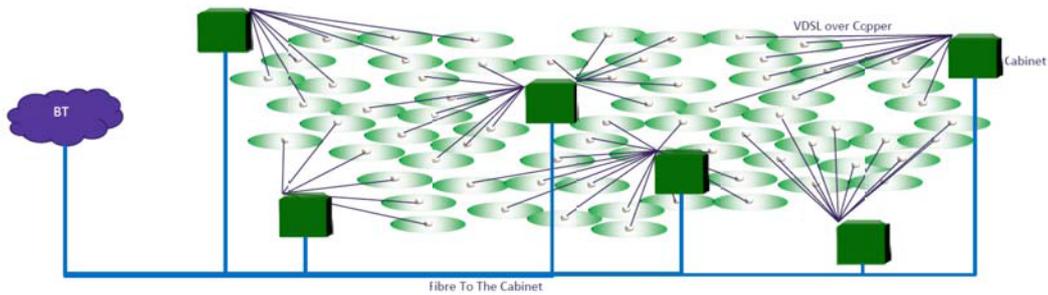
⁷⁶ As of 15 February 2015, the BT Wi-Fi app had been downloaded around 1.7 million times (corresponding to between 20% and 25% of BT broadband users), while the BT SmartTalk app had been downloaded around 604,000 times Source for app downloads <http://xyo.net/?country=GB>.



A2.3 A further explanation of its “inside-out” approach, its interplay with BT’s G.Fast roll-out and of its relative advantages over the “outside in” networks of MNOs was provided in BT’s “the Future of Mobile is...Fixed” presentation:

http://cwbackoffice.co.uk/Presentation/PrestigeLecture_21.10.14_TimWhitley.pdf.

Capacity Increase - Femtocell network – Inside-out



Indoor femtocells for enterprises and residences can complement macro-cellular network capacity and have the site, power and connectivity readily available

Site Availability

Cost per subscriber

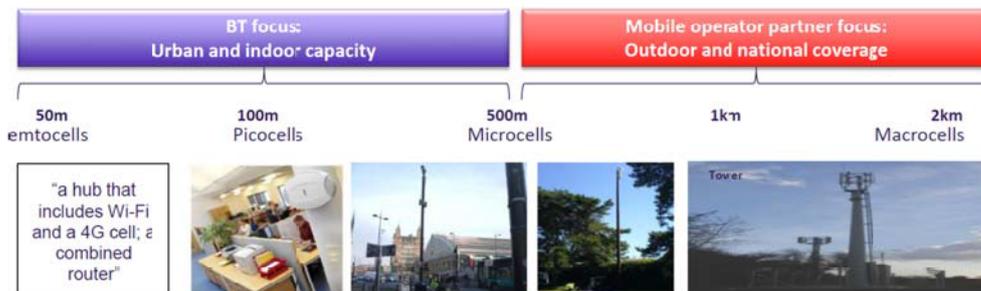
Power

Connectivity

Capacity Increment

© British Telecommunications plc

BT’s Approach ‘Inside-Out’ rather than ‘Outside-In’



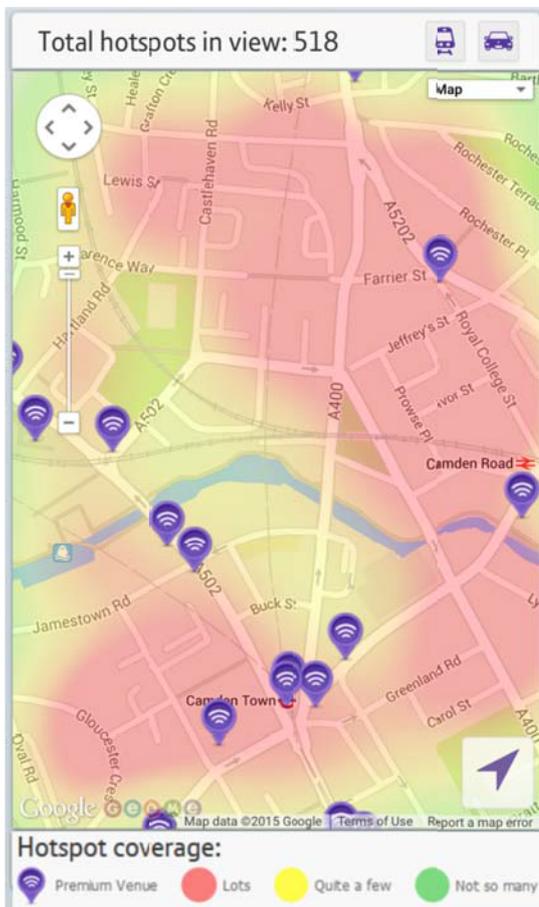
- | | |
|---|--|
| <ul style="list-style-type: none"> ▶ Deploy small cells indoors for capacity ▶ Use MNO partner for coverage ▶ Integration of WiFi and LTE services | <ul style="list-style-type: none"> ▶ Brings together the benefits of LTE and WiFi ▶ Open-mode system analogous to BT FON/BT WiFi ▶ ‘Fixed meets mobile’ |
|---|--|

Example of G.Fast trial network layout



A2.4 An illustration of the potential high capacity data service coverage available to BT through its network of public and private Wi-Fi hotspots is provided in Figure 1 below. This has been taken from BT's Wi-Fi finder app around Camden Town Underground Station in London. The red shaded areas indicate where there is coverage from residential routers. The blue and purple signal dots show where businesses operate public Wi-Fi. The map shows good coverage within residential areas and good availability of Wi-Fi hot-spots within commercial areas.

Figure 1. BT Wi-Fi network coverage in Camden Town as of 13 February 2014

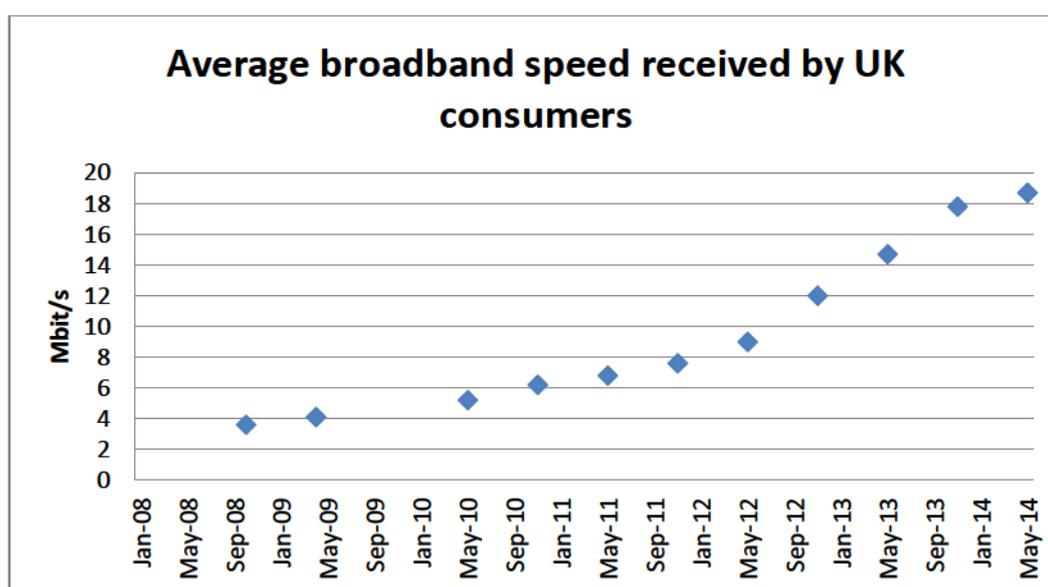


Annex 3: Key benefits delivered by competition fostered by the regulatory regime

- A3.1 The regulatory regime and the competition it has fostered have generated significant benefits to consumers in terms of lower prices, product variety, and quality of services provided (including both the quality of products delivered to consumers, and customer service).

Average broadband speeds

- A3.2 The most obvious benefit to UK consumers since the introduction of LLU has been the increase in the speed of broadband connections available to them. In 2004, a typical residential broadband aDSL connection delivered 512kbit/s. By May 2014 the average speed of broadband services actually delivered to consumers (as opposed to advertised headline rates) had increased to 18.7 Mbit/s. Figure 1 below is based on Ofcom data that measures the average speed of UK broadband services.⁷⁷



Source: Ofcom data

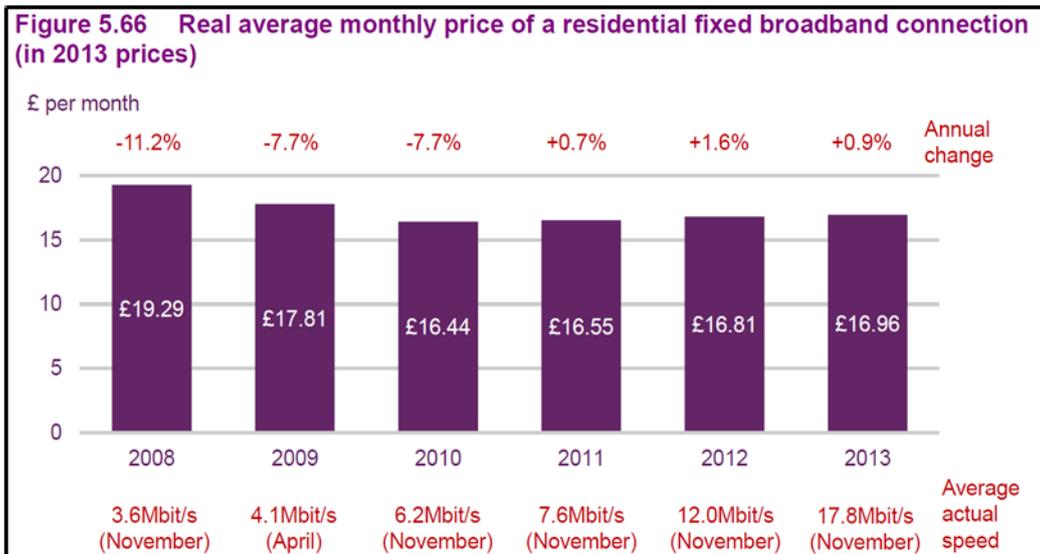
- A3.3 While increases in average broadband speeds in recent years have been associated largely with increased take-up of fibre-based 'high speed' broadband services (both cable and over BT's network), for the early years from 2004 and prior to significant adoption of SFBB, improvements in speeds were mainly from aDSL services

Falling prices

- A3.4 On a like-for-like basis prices for fixed communications services, including fixed broadband service, have also fallen significantly since the introduction of LLU. In 2004 the 512kbit/s referred to above normally cost around £25 a month. Today, consumers can get an 'up to' 76 Mbit/s service for that amount. The following Ofcom chart⁷⁸ provides a good indication of this trend over time:

⁷⁷ The Ofcom survey only began in 2008; there had already been a significant increase in average broadband speed before then.

⁷⁸ Ofcom Communications Market Report 2014, Figure 5.66.



- A3.5 We note also that the average monthly household spend on overall fixed telecoms services (fixed broadband and fixed voice) has also declined since the introduction of LLU. For example, Ofcom’s figures show that the average household spend on fixed telecoms services fell from £39.36 in 2008 to £35.51 in 2013.⁷⁹
- A3.6 In addition to these headline prices, there are normally significant discounts (such as six months’ half price, or £100 shopping vouchers), for households signing up to these services.

⁷⁹ Ofcom Communications Market Report 2014, Figure 5.54.

Annex 4

Part A: Sky's experience of BT's strong incentives to favour its downstream operations

- A4.1 This Annex provides examples from Sky's experience of how BT's already strong incentives to favour its downstream operations have impacted on rival downstream CPs, notwithstanding the existing regulatory regime. Examples include:
- (i) In relation to retail standard broadband and SFBB, Sky consumes different wholesale access inputs to BT's downstream divisions which enables Openreach to distort the provision of these services to favour its retail arms such as by artificially increasing charges;⁸⁰
 - (ii) Openreach delayed the introduction of a customer self-install option for GEA known as "wires only" enabling it to increase rivals costs artificially by raising a managed installed charge;
 - (iii) Openreach has been slow to respond to Sky's product development requests and to date Sky's requests for the development of an unbundled fibre-to-the-cabinet product (**UFTTC**)⁸¹ which would allow Sky to provide a differentiated SFBB service as well as have greater cost control have not been successful, whereas Openreach is developing a new single order GEA product (which does not require a copper line) despite the absence of strong external demand for this product;
 - (iv) Charging higher prices for backhaul services only consumed by BT's downstream competitors;⁸²
 - (v) BT's investment in NGA over pro-active maintenance of the copper network. In recent years, BT has prioritised its investment in deploying its NGA network (reportedly spending up to £2.5 billion) over maintenance of the copper network. This has disadvantaged the provision of standard broadband services over NGA services and resulted in increased faults and delayed repair and provisioning of standard broadband services to LLU operators like Sky⁸³ (see further **Annex 4 Part B** which outlines BT's under-investment in its copper network).
 - (vi) Despite the functional separation of Openreach from the rest of BT, the overall investment strategy is determined by BT Group which influences Openreach investment decisions.⁸⁴
 - (vii) In the context of mobile and LLU backhaul, Openreach has resisted demands for passive access to its dark fibre, ducts and poles in favour of its active backhaul product portfolio⁸⁵ as well as being slow to respond to product development

⁸⁰ For example, Openreach requires that CPs submit all FTTC routers for conformance testing at BT's labs, despite having developed an open test standard with industry.

⁸¹ Sky submitted a Statement of Requirements (**SoR**) to Openreach on 12 February 2013.

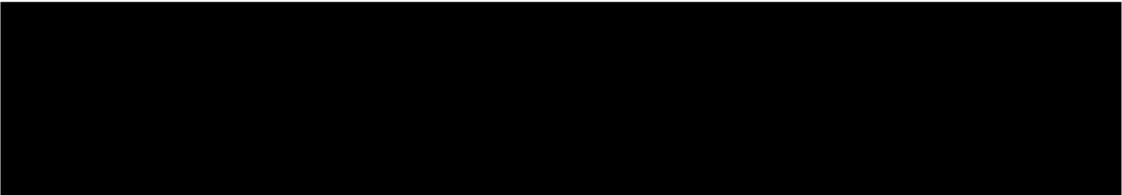
⁸² The current basket control that applies to Ethernet services allows BT flexibility to set individual prices and BT recover costs from higher bandwidth EAD services.

⁸³ See paragraph 11.27 and A30.50 in Ofcom's FAMR.

⁸⁴ For example, investment in NGA or pro-active maintenance of the copper network to support the promotion of SFBB by BT Consumer.

⁸⁵ Sky has experienced first-hand the limitations arising out of the active backhaul products. [REDACTED]

requests which would allow greater innovation and investment in the provision of ethernet services which will benefits consumers and businesses.⁸⁶

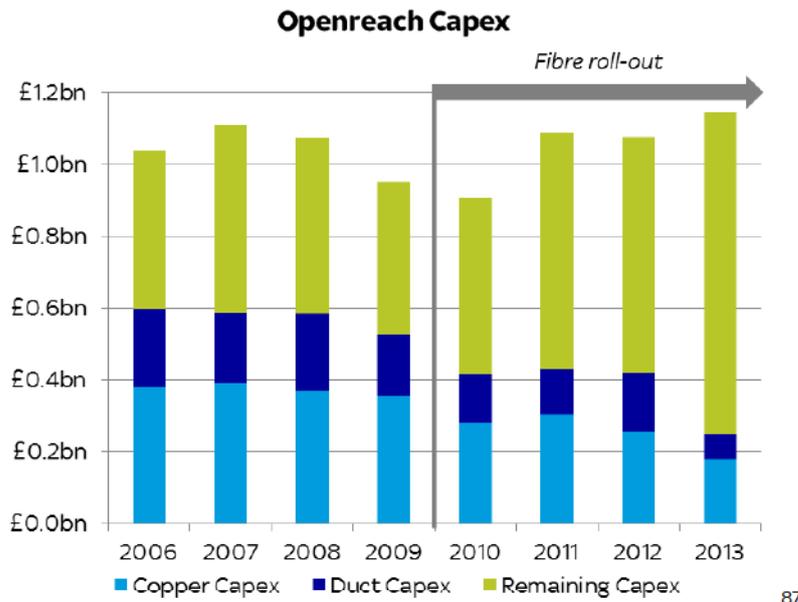


⁸⁶ Openreach has resisted calls for the development of TILLAP services to replace exiting WES ethernet services, calls to improve ethernet NID access and synchronous ethernet services.

Annex 4

Part B: BT's Under-investment in copper in favour of its NGA network

A4.2 BT has been either reducing its overall capital investment in its network (up to 2009) or, where it has undertaken new incremental infrastructure investment (such as its roll-out of FTTC from 2009) it has done so by reducing capital investment in the remainder of the network i.e. ducts and copper.

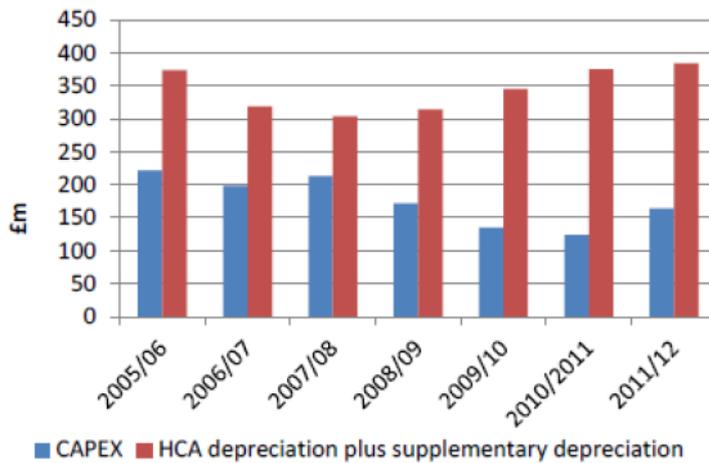


A4.3 Reducing investment in BT's duct and copper cables in order to invest in fibre may be justified if the FTTC network was replacing the duct and copper network. However, FTTC is not a substitute but instead relies on the existing duct and copper network and therefore, all else being equal, the rate of capital investment in duct and copper should remain the same or similar.

A4.4 If the duct and copper network were in a relatively steady state then annual capex on new ducts and copper should broadly match annual depreciation costs. But BT's duct and copper capex is now persistently and materially below depreciation suggesting that BT is no longer refreshing its infrastructure at the same rate i.e. it is ageing.

⁸⁷ BT's reported KPIs, BT RAV model and Frontier Economics.

Figure 10. Duct capital spend compared with CCA depreciation (£m) (2005/06 - 2011/12)



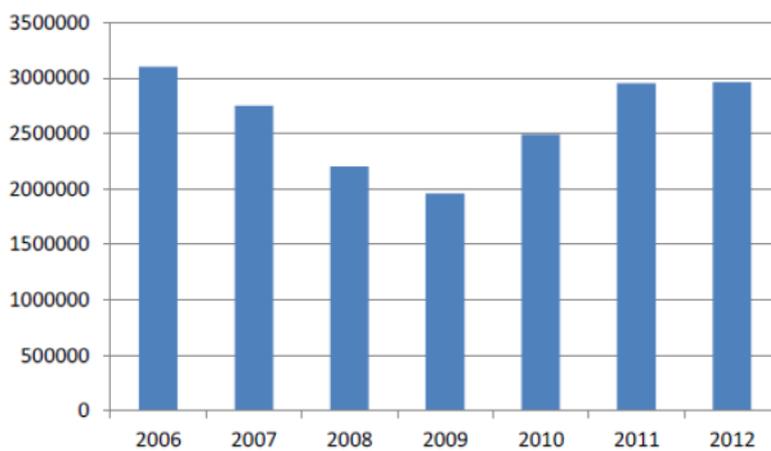
Source: Ofcom model

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Higher fault rates

A4.5 As BT has significantly reduced capital investment in its duct and copper network, its network is no longer being replaced at the same rate and, as a result, unless there are increased levels of preventative maintenance aimed at extending the working life of its duct and copper assets, the network will be prone to more faults.

Figure 3. Openreach CGA faults 2006 – 2012



Notes: 2006 and 2007 data estimated from figure 5.1 of the December consultation. 2008 and 2009 estimated by applying the reported fault reductions to 2007 data. 2010 and 2011 show CGA related faults from table 5.1 of the December consultation.

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⁸⁸ Ofcom’s LLU and WLR Charge Control Proposals: A report prepared for TalkTalk and Sky, October 2013, Frontier Economics.

⁸⁹ Treatment of the level of faults in the LLU and WLR charge controls for 2014-17: A report prepared for TalkTalk and Sky, February 2013, Frontier Economics.

Annex 5

BT and analyst statements regarding quad play

BT's views

- A5.1 BT states that: *"Fixed-mobile converged products have seen strong take-up in a number of Continental European markets, to the benefit of consumers. BT expects there to be growing appetite for these products in the UK. Mobile devices are increasingly being used for data services, rather than just voice and text. People are becoming more reliant on access to data whether in their home or business location, or on the move. The lines between fixed and mobile are blurring as people increasingly rely on tablets and smartphones to access data services."*⁹⁰
- A5.2 Gavin Patterson, BT Group CEO, confirmed this view in a financial analyst conference call on the acquisition of EE. *"[...] the combination of the leading 4G network with the largest super-fast fixed network will allow us to offer a genuinely innovative and seamless service to our customers. We expect significant demand in the market for fixed and mobile converged products, and we'll be better equipped than anyone else in the UK to offer these services."*⁹¹
- A5.3 Furthermore: *"For BT this is about truly-converged services. It's not just about selling bundles of two, three or four services to the customers. It's about offering customers a genuinely innovative and seamless service. And, it's not just about converged services. It's also about converged networks, using the fact that we'll own both a strong fixed network and a strong mobile network to our advantage, and offering real quality and value to our customer base."*
- A5.4 Responding to a financial analysts' question, Gavin Patterson stated that: *"Some people have talked about this being quad play. I think it's much more than that. I think it is ultimately having a service that works wherever you are and picks up the best available connectivity to get that. So it's a seamless, ubiquitous service. You can see in the numbers, and I think we talked about them a little bit in the presentation, that when the mobile is combined with the fixed subscription there is some quite significant attachment rates being achieved in many countries across Europe. And that will be key, we think, to driving ultimately the revenue growth that ultimately we think we can get to. So there are two ways we'll do that. There's a clear path from, I think, mobile being attached to fixed. But there's also some good examples of fixed being attached to mobile, though probably not as strong. So that's, I think, the key on the revenue side of things."*⁹²
- A5.5 Also, on an analysts' question on how the old mobile strategy and the new mobile strategy fit together he went on to say that: *"We never hold anything back. I'm going to ask Tony to give a bit of detail in a minute, but I just wanted to emphasize that the femto cell strategy will remain fundamentally part of our overall network vision going forwards. What we're seeing is the appetite for data consumption seems to be unrelenting. Over the last 10 years, it's gone up 30% a year on a CAGR basis. We see that -- if anything, we see the potential for that accelerating going forwards. And the key to being able to meet that demand at the right price point with the right quality, it's about combining the best of fixed and mobile together, and really getting the fixed network as close to the customer as possible, but still giving the flexibility and the convenience that comes with the mobile element at the end of it. So, that's how we see our vision, and femto cells are very much part of that."*⁹³

⁹⁰ EE announcement, page 8.

⁹¹ EE announcement transcript, page 3.

⁹² EE announcement transcript, page 9.

⁹³ EE announcement transcript, page 19.

- A5.6 The graph below emphasises BT's strategy in developing converged offerings as well as its pledge in investing in mobility as a source for growth. It also stresses meeting consumer demand and offering competitive prices as a goal.



Source: BT Q4/full year 2013/14 results, slide 34.

Financial Analysts' Views

- A5.7 Financial analysts from different financial institutions reaffirm many conclusions on quad play implications and future development.
- A5.8 Morgan Stanley asserts that: *"BT's near-term equity story now centres on its plans in mobile following the announcement that it is in preliminary discussions with the owners of O2 UK and Everything Everywhere to acquire their mobile units. BT's existing plan on mobile is through an MVNO agreement with Everything Everywhere. However, the company cites the flexibility to go to market with more complex propositions in a timely fashion as an advantage of actually owning a mobile operator."*⁹⁴
- A5.9 Macquarie states that *"Buying mobile is rational" and goes on to state "BT's existing business model is challenged and it needs mobile. The recent past of price inflation, cost cutting and moderate investment has a limited future in our view – indeed we believe consensus overly-exaggerated the sustainability of this business model going forwards. BT Sport was the first stage of the reinvestment, the growth in wholesale fibre is the necessary second and mobile is the final piece of the jigsaw."*⁹⁵
- A5.10 Societe General asserts that *"Potential EE acquisition could be a great start to 2015" and analyses how "So far quad-play is under-developed in the UK. We estimate that just over 1.3m UK homes take all four products, or around 5% of the total broadband base (that's just 1.4% of the UK mobile customers)" and that there is a lot of scope for quad play development in the UK.*⁹⁶

⁹⁴ Morgan Stanley, Morgan Stanley Research BT Group, 11 December 2014, page 3.

⁹⁵ Macquarie Research, BT Group, page 2.

⁹⁶ Societe Generale, Cross Asset Research, 15 January 2015, pages 1, 10 and 11.