



ANTICIPATED ACQUISITION BY BT GROUP PLC OF EE LIMITED

Submission by the UKB Group in response to the Statement of Issues published by the CMA on 17 July, 2015

NON-CONFIDENTIAL VERSION

1. Introduction

The UKB Group ("UKB"), comprising UK Broadband Limited and UKB Networks Limited, welcomes the opportunity to comment on the CMA's Statement of Issues.

UK Broadband is owned by PCCW, whereas UKB Networks is owned by HKT. PCCW owns 63% of HKT and both are separately listed on the Hong Kong Stock Exchange. Investment in the UK to date from both PCCW and HKT exceeds [redacted]¹. UKB Networks is effectively the operating company of the UKB Group through spectrum sharing, co-licensing and other inter-company arrangements. PCCW and HKT have together agreed that all future investment in telecoms in the UK will be channelled through HKT and therefore through UKB Networks.

HKT has a market capitalisation of approximately US \$9Bn and has extensive fibre and wireless network experience. HKT is Hong Kong's premier telecommunications network and service provider, being the market leader in fixed line voice, broadband, Pay TV (via IPTV) and mobile in a highly competitive market. HKT also owns and operates a substantial international voice and data network and services business with a turnover in excess of [redacted] that is often second only to Google in the amount of the world's internet traffic being carried across its network.

¹ UKB has owned spectrum in (inter alia) the 3.4 GHz and 3.6 GHz bands for a number of years. UKB engaged in extensive research and development on use of the spectrum with earlier technologies, such as CDMA and WiMax. [redacted] Network deployment in this spectrum with LTE is still nascent in many countries, and UKB is very much at the vanguard, leading policy and standards development through the eLTE Alliance and the Global TD-LTE Initiative (<http://www.gtigroup.org>). The release of this spectrum in countries such as Japan and China will greatly speed up development of devices and other network technology in the band.

[REDACTED]

HKT now wishes to leverage its extensive experience of building, designing, and operating complex fixed and wireless communication networks in order to expand and grow its interests in the UK market, [REDACTED]. We are focussing on deploying high capacity [REDACTED] data networks.

UKB Networks is head quartered in West London and has offices in Wokingham, Stafford and Wrexham. The business comprises the Relish consumer and business broadband service, currently offered in central London [REDACTED] and the wholly-owned subsidiary Keycom plc, which builds and operates campus-based fibre networks. Today UKB employs [REDACTED] people.

[REDACTED] Examples of these broadband data networks include:

- Urban broadband networks, such as:
 - the Relish fixed wireless network in London, which is achieving [REDACTED]% of the addressable (i.e. churning) market share; and
 - fibre solutions to multi-tenanted buildings, such as the Barbican;
- Military and university campuses and nurses' accommodation;
- [REDACTED]
- Rural networks such as the BDUK procurement covering the Swindon local authority area; and
- [REDACTED]

HKT is a market leader partly through its record of constant technical innovation. Most recent innovations include the pioneering of Multi Operator Core Networks ("MOCN"), [REDACTED].

HKT, through UKB Networks, aims to build a network alternative to BT, utilising both wireless and fibre technologies. This will benefit users and at the same time spur Openreach (or its successor) to compete.

2. Market Definition

UKB agrees with the CMA that the BT/EE and H3G/O2 transactions need to be considered together. The CMA's approach to the counterfactual is, in the circumstances a practical way forward. It is important to look at the options of one but not the other proposed acquisitions being approved, as well as both being approved, and comparing each with the status quo in terms of SLC.

If there are opportunities to fully consider the overall impact of consolidation affecting the distinct market for telecommunications services in the UK, then those opportunities should be taken.

Below, we comment on the five market areas which the CMA has identified as appropriate for investigation, namely:

- (a) retail mobile;
- (b) wholesale mobile;
- (c) mobile backhaul;
- (d) wholesale broadband; and
- (e) retail broadband.

We further comment on other markets and issues that need to be investigated.

3. Convergence of Retail Mobile Data and Retail Broadband Markets

As well as investigating whether there are sub-markets for 4G mobile services², we request that the CMA further examines the extent to which convergence of the markets for fixed and mobile data is occurring and will increasingly occur. Traditionally competition questions have been focused around the “mobile” industry – by this we mean legacy voice networks. Just as the retail broadband market grew out of the voice telephony market (and was provided over copper wires), so the wireless data market has, thus far, grown out of the mobile voice market and has, thus far, primarily been provided over networks designed to carry voice calls³.

Fixed broadband networks have had to be upgraded to allow for improved broadband service provision – initially via fibre extensions to street cabinets and, increasingly (and already in other countries) via fibre to the premise. Through these technical upgrades we, effectively, now have fixed broadband data networks that also accommodate voice calls. Equally, mobile voice networks need to be upgraded and rebuilt to provide the amount of data capacity which is being demanded by customers. In future the UK requires high capacity wireless broadband data networks that also accommodate voice.

² Paragraph 18(b) of CMA Statement of Issues

³ Legacy mobile networks were typically provided with FDD technology and “paired” spectrum which was designed for two-way voice calls. New wireless networks are more likely to be built with TDD technology which allows for dynamic allocation of upstream and downstream traffic ratios.

The future is about data, not voice. Data requires new investment over which voice will also be carried. Increasingly the lines will blur for the consumer between fixed and wireless broadband networks which, for a consumer, also includes Wi-Fi networks. Consumers will expect simply to be connected to good quality data capacity wherever they are, at home, at work, at play and on the move. They will also expect a seamless experience when moving from one network or network type to another. As in other countries where demand for this seamless connectivity is already being accommodated, demand in the UK will increasingly be for the convenience of one seamless experience regardless of location.

Any review of the market therefore needs to ensure that protections are in place that ensure the required new wireless data networks are built in a competitive environment and that there is true competition across all of the means by which the consumer will receive a "joined up" service, including wireless broadband, fixed broadband and Wi-Fi. This is a challenge of the BT/EE merger as this creates a party that can dominate in fixed, wireless and Wi-Fi broadband. Measures are required ensure that true competition in the converged broadband data market of the future is possible.

Throughout this submission we have retained the use of the term "mobile" to describe the wireless networks of the future because that is the language most commonly used today. Whilst retaining the term, we do not think it is accurate and is potentially misleading.

In a data world, the majority of usage is not "mobile". It is "nomadic". Consumers use the largest amounts of data when they are static, primarily because they need to read or look at a screen – in a coffee shop, waiting for a bus, standing in the street downloading directions etc. Even in public transport the consumer use is static, even though the vehicle itself may be moving. Only voice is truly mobile. Hence the majority of capacity that will be consumed on "mobile" networks in the future will not be "mobile".

It is important therefore always to keep in mind that references to mobile networks actually mean high capacity wireless broadband data networks. 4G and 5G mobile wireless base stations will have to be connected to fibre backhaul to provide the capacity required. Think of the base stations as providing "fibre through the air" as opposed to "fibre in the ground" - just as a Wi-Fi hot spot today, connected to a fibre backhaul, is also "fibre through the air". The consumer is looking for the "always there ultrafast experience", whichever technology is delivering it.

The nomadic nature of the majority of data capacity use leads to a different approach to building wireless data networks from the approach to building voice networks. Whereas voice needs a thin coverage layer everywhere, data requires different levels of capacity in different usage cases. Cities require much more

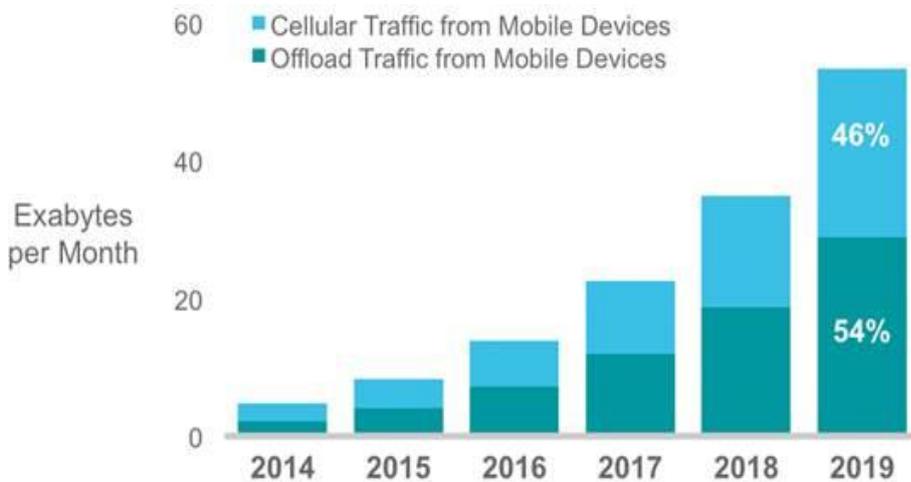
data capacity than rural areas, railway stations need more capacity than parks and the centre of a village requires more capacity than the surrounding farmlands. The wireless data networks of the future require a thin coverage layer for voice and data and an additional capacity layer where larger amounts of capacity is required.

Data offload – Fixed onto mobile and vice versa - Cisco’s report

Mobile data users increasingly use Wi-Fi connections at home, in businesses and in public places to offload data.

Whilst caps remain for consumers on mobile data, data offloading will become increasingly common if capacity remains constrained. Mobile data will become increasingly interchangeable with Wi-Fi and fixed line services. For example, HKT makes its Wi-Fi network in Hong Kong available to other operators. The Wi-Fi network and cellular network run off separate, but connected, core networks and traffic can be allocated dynamically between them.

Cisco predicts that by 2019, over 50% of mobile data will be offloaded onto Wi-Fi or fixed networks, as illustrated below.



Source: Figure 17. Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update 2014-2019 White Paper

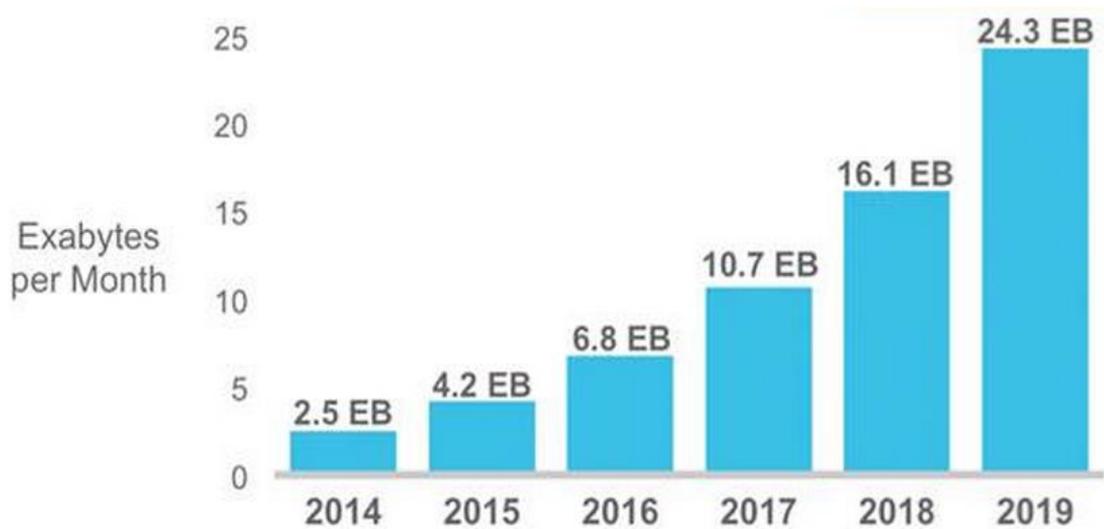
Data Consumption is on the rise and will continue to rise

Ofcom expects overall levels of wireless data traffic could grow by around 45 times between 2014 and 2030⁴.

⁴ Ofcom consultation on the future use of the 700MHz band, May 2014

Cisco predicts that wireless data traffic will increase nearly tenfold between 2014 and 2019 and that wireless data traffic will grow at a compound annual growth rate of 57% from 2014 to 2019, reaching 24.3 Exabytes per month by 2019.

Our experience from Hong Kong, where, for example, our customers watch live streamed television programmes on the train and bus on the way home from work, indicates that this estimate is conservative. HKT's experience is that if you provide the network capacity and capability, the consumer will use it.



Source: Figure 1. Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update 2014-2019 White Paper

Wireless data will increasingly become substitutable for fixed internet connections. Currently users are constrained in their use of wireless devices by the lack of availability of sufficient spectrum capacity, and so rely on Wi-Fi networks or fixed connections. Additional spectrum suitable for wireless/ mobile data has been released and will continue to be released which will enable new wireless data networks to be built, if market conditions are favourable.

Business-led growth in data consumption

Much of the growth in data usage will come from new applications, particularly in the enterprise space. Usage and innovation are currently capacity-constrained.

The Internet of Things (IOT) and Machine to machine (M2M) connectivity is increasingly important for businesses and consumers on the move (e.g. wearable devices).

M2M growth has been fast paced and this growth is expected to grow six-fold by 2019.

Competition and growth in IoT, M2M, business wireless broadband and other business-critical applications will be dependent on additional capacity being made available.



LPWA = Low Power Wide Area

Source: Figure 10. Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update 2014-2019 White Paper

4. Wholesale Mobile Market

The ability to compete successfully as a wireless network operator in today's data centric world depends on having sufficient levels of both network *coverage* and network *capacity*. Providing wide area *coverage* tends to require access to sub-1GHz spectrum. Providing sufficient *capacity* at the point of need, on the other hand, depends on having large amounts of (ideally higher frequency) spectrum.

A truly competitive environment will enable and encourage operators to compete not only on the thin coverage layer, but also in order to deliver the *data capacity* needs and expectations of consumers and enterprises.

EE already has more spectrum capacity than its competitors. Adding BT's spectrum increases the merged firm's higher capacity spectrum holdings by the addition of 30MHz of 2.6GHz FDD spectrum and 15 MHz of 2.6GHz TDD spectrum. The merged firm's extensive spectrum portfolio and dominance of the higher frequency spectrum bands means that it will have the ability to support a higher number of users than its competitors. Therefore, a competitive market can only be sustained through the establishment and protection of a wholesale spectrum market.

As well as considering the current market for wholesale mobile services, the CMA should consider what conditions would be required to enable other forms of wholesale access to wireless networks.

Whilst divesting spectrum has been a traditional remedy to ensure competitive forces can fully operate, UKB's view is that **Multi Operator Core Networks** ("MOCNs") also provide effective and economically efficient means of supporting

service level innovation and a basis for customer demand driven investment and competition. We discuss this further in Section 9 below.

5. Mobile Backhaul

UKBN is building high capacity wireless and fibre access networks, and largely relies on third party network providers to backhaul its traffic from its hub sites to its core network. It is vital that the backhaul circuits provide sufficient capacity to carry the data requirements of the end users, not only for current demand, but also to cope with growth in the number of users and growth in the data usage levels of end users.

The ability to increase capacity rapidly to meet demand is vital in order to meet customer expectations and provide a high quality user experience. Every time a user experiences a slow connection or buffering, this represents a network that is capacity constrained and is unable to meet consumer demand.

Backhaul circuits can represent a bottleneck on data usage via cell sites and towers and can affect the availability of capacity in different geographic regions. HKT experienced this in Hong Kong when it acquired the mobile network operator, CSL. CSL's backhaul infrastructure was inadequate, so it was replaced with fibre circuits to all of the cell sites, which resulted in increased throughput of [X] %.

BT/EE would be able determine the extent of its fibre backhaul roll-out and thus the increase in throughput from any particular base station. BT's incentive would be to significantly enhance its own fibre and wireless backhaul arrangements to support greater capacity for its own services in comparison to a competitor's services. This would provide BT/EE with an unfair advantage in the market for retail mobile services by enabling the merged firm's customers to experience higher data speeds.

UKB's view is that such fibre enhancements need to be made available to all the industry players on non-discriminatory terms (including price, timing, QOS, etc). This would include all geographic areas and all backhaul requests (rather than merely equal treatment where BT opts to build for its own purposes). Safeguards with severe penalties must exist to ensure that BT/EE meets the needs of competitors for backhaul services.

UKBN's wireless access networks comprise 4G LTE fixed wireless access as well as dedicated high capacity microwave links used as "leased line" products. UKBN's typical network topology for a wireless access network is as follows:

[X]

BT suggests in its submission to the CMA that demand for fibre mobile backhaul is limited to only three customers: MBNL, O2 and Vodafone. This is of course not the case, as UKBN increasingly relies on BT, as the only operator with truly ubiquitous network reach, for backhaul circuits, to support our fixed and wireless campus broadband deployments in both city and rural areas. There are also many other broadband providers that provide services to businesses, local authorities and, increasingly, local communities that require access to backhaul. Government policy is now to encourage these smaller providers to help resolve the “not-spot” issues in both city and rural areas however they can only do so if they have access to timely and sufficient backhaul.

As a competitor at the retail, enterprise and wholesale level to both BT and, potentially, EE, effective regulation of access to BT’s network is crucially important.

The Government has placed considerable importance on delivering broadband connectivity to all parts of the UK and reducing the “digital divide” and to enabling digital inclusion through cost effective and flexible solutions. It is becoming increasingly apparent that an important way of delivering this policy goal is by moving away from traditional FTTx solutions.

Enabling a more fluid, flexible and efficient approach to access network build, would (as the availability of dark fibre backhaul would) enable and encourage service innovation and increase customer choice. UKB’s Relish service is an example of this – a service based on an entirely new network offering true product differentiation, with features such as:

- Rapid install - next day delivery
- No need for a landline
- Monthly rolling contracts.

Supply-side considerations are highly relevant to the market for backhaul and should entail detailed analysis of the location of networks and available network capacity, together with an assessment of alternative suppliers within a timeframe that is timely, likely and sufficient to fulfil customer needs.

The market for backhaul will in any event be constrained by the location and availability of capacity in existing fibre networks. In some cases cell sites and towers may be located at a considerable distance from existing alternative network infrastructure while all locations are within reach of BT’s ubiquitous network infrastructure. Alternative network operators will require network extensions or need to build new fibre.

BT’s extensive network infrastructure and its broad geographic coverage gives it an inherent competitive advantage over any rivals in providing extensions and

fibre backhaul at lower marginal cost than available to others except perhaps in a limited range of urban locations.

6. BT's Fixed Infrastructure

A key foundation of BT's strength arises from its ubiquitous and unparalleled fixed infrastructure. There is no competitor that can match the scale and scope of BT's network nor are we aware of a competitor that would seek to create such a network. In focussing on certain discrete parts of the fixed infrastructure market, such as mobile backhaul services, there is a danger that the wider issue of the impact of this proposed merger on the fixed infrastructure market as a whole and the inter-relation between various infrastructure products and services is not fully considered. This in part, is also why it is important to consider supply-side considerations in the assessment of telecommunications markets⁵.

BT seeks to rely on two arguments in relation to its fixed network: existing regulation (such as non-discrimination requirements) addresses the issue of BT's market strength; and in any event the merger does not impact on BT's market position in fixed infrastructure.

In our opinion, neither argument is correct:

1. Regulation does not address BT's ability to supply its own offerings more slowly or upgrade infrastructure out of step with customer demand and limit the supply of service to competitors. In no place does the current regulatory regime address the allocation of risk and potential foreclosure of telecommunications supply chains that depend on BT for access.
2. The merger will strengthen BT's ability to control the fixed infrastructure market and also alter its incentives as to when and where to invest in infrastructure. For example, BT would have a reduced incentive to invest in infrastructure that would enable third parties, dependent on such infrastructure from BT, to compete with EE's retail offerings.

The investment battleground

A. BT's control of essential inputs enables it to undermine downstream investment, innovation, and competition.

In Para. 1.4 of BT's submission to the CMA it states: "The combination of EE's advanced 4G network with BT's existing fixed infrastructure will give BT greater

⁵ See Annex 1 for a paper on 'Supply Side Substitutability in Telecommunications Markets'

end-to-end control over future investment and product innovation to satisfy customer needs. BT will also have increased investment capacity to develop and deploy new networks and services, particularly converged fixed-mobile services.”

For the market mechanism to work well, the market has to be customer driven. Customers have to be able to make their choices from among a range of competing products. The difficulty in telecoms in the UK is that customers are currently dependent on BT’s decisions over investment, innovation and services⁶, since BT’s control over access and access technologies affect all in the market. One central issue that BT’s statement above admits is that it will have “end-to-end control” over future investment and product innovation in an expanded business system. It will also have an increased ability and incentive through its end-to-end control of the technology stack to manage its investments to prefer its own retail offerings or restrict the offerings of third parties through limiting investments in essential inputs for other end to end services.

One of the most significant market factors for a future in a capacity constrained data world will be BT’s existing ability to hold up the provision of new services and competition throughout the telecommunications supply chains in the UK by determining the pace and nature of investment in its own infrastructure. On a day to day basis it is already often frustrating how long it takes to procure a BT circuit or existing service, even where service already exists, and projects are delayed with resulting inconvenience to the end consumer. BT’s ability to delay competitors today will be further compounded if there are not the correct drivers for future investment by BT.

BT’s own incentives in regards to infrastructure investment will be altered by the merger since it will also consider the impact of such investment on its mobile services. In considering investments on an end-to-end basis, an operator would take account of the fact that the current and increasing capacity constraints limit the ability and incentive for substantial competition for mobile services and thereby in effect lock-in the current market positions. For the merged firm, maintaining the ‘status quo’ would have the dual advantages of keeping ‘EE’ as the market leader for mobile whilst also enabling the merged firm to ‘sweat’ its existing assets. The FCC in its recent AT&T-DIRECTV approval also considered and addressed the issue of that merger creating a reduced incentive to invest by requiring AT&T to commit to certain roll-out network requirements⁷.

⁶ Resellers of BT’s services can only offer the service/ product portfolio that BT chooses to offer. Although new product development can be requested, in practice this is often either refused due to insufficient volume commitments or delayed until there is no competitive advantage. This problem is a feature of regulation which focuses on product markets rather than underlying infrastructure. Product development is constrained to go at the pace of the incumbent.

⁷ <https://www.fcc.gov/document/fcc-releases-order-approving-att-directv-transaction>

B. The merged firm investment advantage

The merged firm would have a significant advantage over all other entities in making network investments. From the BT infrastructure perspective, BT would be able to make investment decisions with the benefit of having EE's traffic as a captive guaranteed customer for the infrastructure and in full synchronisation with the EE network roll-out plan. For EE, it will be able to build out its network with full knowledge and influence as to where BT's network will be extended and/or upgraded. This reduces the risk and therefore cost to the merged firm of any network investment.

By contrast, the other MNOs would in the future face a dilemma: whilst the MNOs would want to coordinate their network roll-out with the deployment of BT infrastructure, they would not want to share such roll-out plans with EE, their direct competitor.

7. Customer Lock-in, Switching Costs, and Gateway Bottlenecks

In looking at the theories of harm, the CMA should take into consideration the impact on competition in the relevant markets of customers being locked in to minimum term contracts, the switching costs involved with switching from various BT services and other bottlenecks whereby the merged firm would be able to control competition.

In terms of minimum term contracts, the merged firm would, for example, benefit from having mobile customers typically with a minimum 2 year contract from the date of upgrade and business fixed customers typically with a 3 to 5 year minimum term from the date of taking a new service or package. The merged firm will be able to offer those customers additional services or bundles without any competition to the combined offering due to the customer being still within its minimum contract period on one of the components of the bundle.

An example of a gateway bottleneck is BT's order entry system ('EMP'). This is dimensioned in a way that allows broadband service providers (ISPs) to order wholesale services from BT but not from BT's competitors, i.e alternative access network operators. The consequence is that an ISP that wishes to access the customer of a competitor to BT would need to use a second ordering system which thereby creates an artificial switching cost for that ISP and a very real impediment to the development of effective infrastructure competition.

8. Potential solutions to significant lessening of competition

We believe that the CMA will face overwhelming evidence of a substantial reduction of competition arising from the transaction and that early discussion of

remedies is needed to ensure that the transaction can proceed in a commercially realistic timeframe.

We suggest that the CMA consider the following potential remedies:

Loss of competitive force(s) or capacity constraints

- divestiture of spectrum; and/or
- MOCN, network sharing or quasi-structural network sharing for active or passive use;
- wholesale access to BT's Wi-Fi network.

Foreclosure from vertical integration

- access to BT/EE networks and systems (eg backhaul & other network components);
- enhanced Openreach non-discrimination safeguards or divestiture;
- roll-out commitments in respect of fibre backhaul;
- wholesale access to BT's Wi-Fi network.

Bundling advantages and customer lock-in

- access to components;
- access to platforms such as EMP;
- restrictions on minimum term contracts and other forms of customer lock-in;
- unbundling; and/or
- reduction of switching costs.

9. Remedies in practice

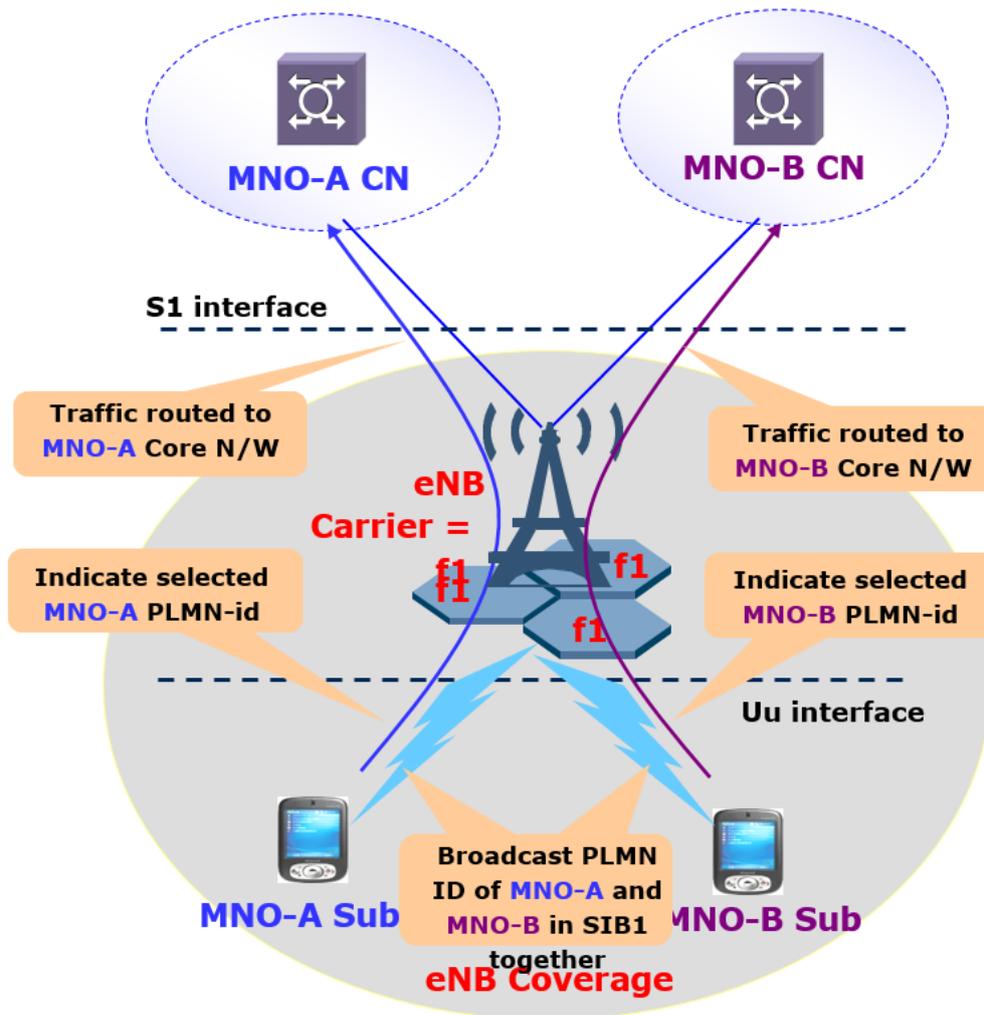
Creative remedies have been applied in other transactions involving similar competition issues⁸. In our view these remedies have failed adequately to support swift market entry and have not fully addressed the problems caused by lack of available capacity.

MVNOs have been introduced in other markets but have failed to produce effective competition at the MNO level. A dynamic market requires real facilities-based competition. Pure resale of networks (eg MVNO) is not the answer as the service offered ultimately depends on the underlying network's technology, quality, scope, bandwidths, coverage, characteristics, etc. Vibrant, facilities-based competition, where competitors rely as little as possible on the limitations of the incumbent's service, should be encouraged.

⁸We provide in Annex 2 an overview of relevant markets that have been identified in previous competition analyses of telecommunications mergers as the basis for ensuring consistency in the analytical approach taken to relevant markets.

Different ways of using cell sites and towers (either more actively or more passively) have been tried. There is a place for tower sharing where new network needs to be built and maximum coverage is the main driver.

The 3GPP standards body has defined different kinds of wholesale network architecture with varying degrees of sharing. MOCN involves operators managing their own core network and sharing both spectrum and radio access equipment, as illustrated below:



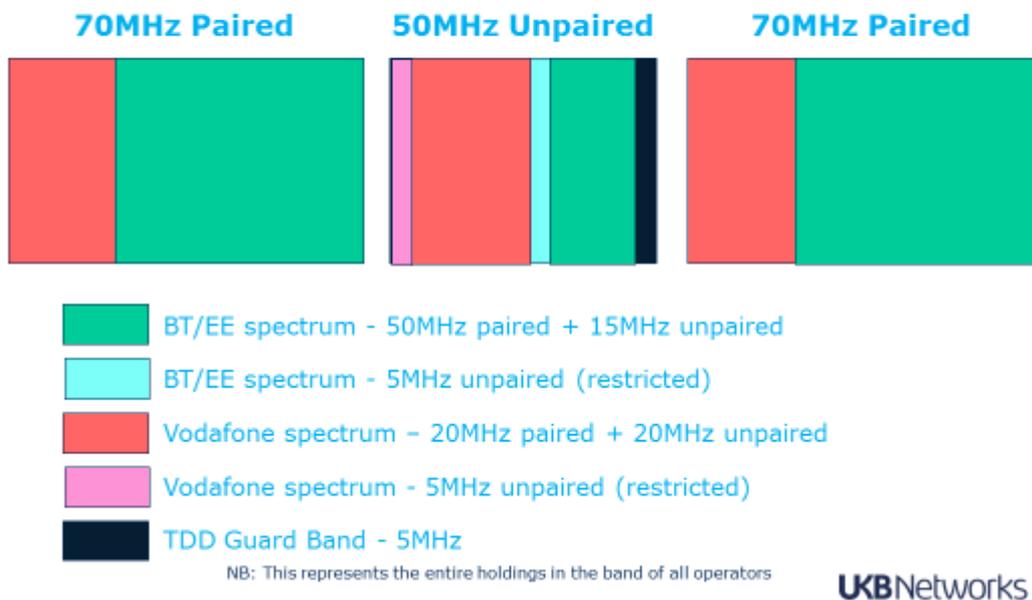
MOCN enables rapid expansion, yet also service differentiation / innovation.

MOCN enables the most efficient use of spectrum. It prevents spectrum having to be divided into unusable blocks, as is potentially the case with spectrum divestment. As the frequency carrier is shared, the full spectrum can be used and peak throughput with the carrier bandwidth is attainable. Radio resources are dynamically distributed, with each operator allocated a fixed proportion of the capacity and additional capacity can be purchased as and when required and available.

MOCN enables rapid attainment of network coverage *where the host party's network has already been deployed in a particular spectrum band*. UKB's parent company, HKT, has entered into such an arrangement with two other operators in Hong Kong. This enabled China Mobile to enter the market without needing to acquire spectrum or cell sites. We are happy to provide further details of the commercial and technical arrangements upon request.

However, MOCN is only appropriate where networks have already been built. This is unlikely to be the case with the 2.6GHz spectrum for example. In this case, spectrum divestment would be the more appropriate remedy. In our view, spectrum divestment is particularly appropriate in the case of 2.6GHz spectrum since the combined entity would have a large block of capacity - the majority of the band, as illustrated below.

2.6GHz spectrum band (190MHz)



The use of "Carrier Aggregation" to combine and maximise use of these blocks of spectrum would give the combined entity a particular advantage over its competitors.

Spectrum divestment does, however, require network build so has a less immediate impact than other remedies, such as MOCN.

Wholesale access to BT's Wi-Fi network will ensure that EE does not have an unfair advantage over its competitors and will enable consumers to benefit from seamless data connectivity. HKT has experience of successfully offering

wholesale access to its Wi-Fi network in Hong Kong which it is happy to share with the CMA.

10. Theories of Harm

We agree with the theories of harm identified by the CMA, specifically:

- Horizontal effects – retail mobile (including competition between MNOs/MVNOs and dynamic effects) and retail fixed broadband.
- Vertical effects – wholesale mobile and mobile backhaul services; wholesale mobile, retail and wholesale broadband.
- Conglomerate effects – bundles in both the residential and business markets.

In addition, we suggest that the following issues merit particular consideration by the CMA:

- Business services: BT's dominance of the market in SME and large national business markets in the UK should be a major area of concern. Access to EE's mobile products will only strengthen their position in this market.
- Supply side factors are matters to be taken into account at an early stage in the process and affect market definition and the analysis of markets and their outcomes. We note that the CMA and Ofcom have formally differed over the approach toward the supply side and attach as Annex 1 a paper on 'Supply Side Substitutability in Telecommunications Markets' for your consideration.
- Geographic Scope of each relevant market – sub-markets and regional variations mean local, regional or national markets can be relevant.
- The extent to which the BT/EE merger is likely to reinforce and further entrench BT's dominance in the provision of fixed infrastructure and the impact that this would have on all the downstream markets where the merged firm's competitors rely on BT's fixed infrastructure.

Overall we would emphasise that your review of the competitive effects of the merger needs to be carefully reviewed against the forward looking likelihood of

the current market being capacity-constrained and the increasing capacity shortage given expanding demand. In our view **lack of capacity constrains all competition and is already an issue in the provision of data services via wireless communications systems in the UK.**