

## **ANTICIPATED ACQUISITION BY BT GROUP PLC OF EE LIMITED**

### **Summary of hearing with UKB Group on 14 August 2015**

#### **Overview of UKB's concerns**

1. UKB Group (UKB) told the CMA that it was comprised of UK Broadband Ltd, a subsidiary of PCCW Limited (PCCW), and UKB Networks Ltd, which was owned by HKT Group, Hong Kong's leading telecommunications provider.
2. HKT Group had a presence in 28 countries providing fixed-line, broadband internet access, pay TV and mobile. HKT Group provided wireless data capacity, equipment, services and solutions to the telecoms industry, service providers and public sector. UKB said that HKT Group's voice and data business had a turnover in excess of \$1 billion and [redacted] of its revenue is generated from outside of Hong Kong. [redacted].
3. UKB acquired 3.5GHz spectrum in 2005 and originally entered the UK market as a data only network with a geographic presence in the area from the Thames Valley to West London. UKB said that it had seen an opportunity to provide fixed wireless broadband services in competition with BT, which it considered had a dominant position at that time. This was prior to the widespread uptake of ADSL broadband.
4. UKB explained that the advent of Long Term Evolution (LTE) technology (a 4G mobile communications standard) had enabled it to deploy new LTE networks with its licensed 3.5 and 3.6 GHz spectrum in London and in other towns, cities and rural areas and to launch fixed and mobile broadband services to consumers and businesses under the Relish brand.
5. In 2015 UKB acquired fibre optic provider Keycom Plc which provided managed communications and broadband for military bases and university campuses. UKB said that this acquisition enabled it to compete in both the fibre and wireless businesses.
6. UKB said that it had projects underway to provide broadband and data services to further cities and campuses throughout the UK via fibre, LTE and microwave networks. In 2015 it was awarded its first contract to provide rural broadband services. UKB said that the UK telecoms market was one of the key areas where HKT wanted to make substantial investment over the next five years.

## General trends

7. UKB said that the UK mobile market had experienced a substantial increase in data consumption but consumers were relatively nomadic in their data usage. For example, consumers generally use data whilst stationary (ie standing looking at a map outside a tube station or sitting in a coffee shop working on a laptop). Even in a moving vehicle (such as a train), the customer is stationary when consuming data.
8. UKB also said that increased take-up of broadband in-building was the first sign that people were embracing the internet, which in turn led to a desire to use the internet and consume data outside of the home as well. UKB said that increasing data consumption meant that networks needed to be designed to provide both a coverage layer and a capacity layer. Extra capacity needed to be deployed in areas of greater demand.
9. UKB said that the ongoing trend was for seamless connectivity over wireless data networks. Customers roam between cellular and Wi-Fi networks as they move around. In Hong Kong, where a consumer was using a device, the intelligent core would be deciding whether to transfer the customer to Wi-Fi or keep it on the mobile network (i.e. the core would decide where the cheapest place to put the customer would be).
10. UKB stated the future of retail mobile was data not voice. It cited a report by Cisco which predicted that by 2020 over 50% of mobile data traffic would be offloaded onto a Wi-Fi network and that currently wireless data traffic is growing at rate of 50% to 57% annually. It said that HKT's experience in Hong Kong showed that if you provided the network capacity the consumer would use it.

## Overall concerns

11. UKB said that it had several concerns about the proposed BT/EE merger.
12. Firstly, BT currently had scale and dominance in fixed infrastructure, which was extensive in its geographical reach and data capacity. By adding EE's services, BT would have advantages over its competitors due to the combined entity's strength of coverage. BT would be able to decide where to upgrade hot spots, control the speed of backhaul, fibre, access to Wi-Fi, etc. Increased dominance in fixed infrastructure would reduce any incentive for investment in areas that would have enabled third parties to compete, for example in relation to Mobile Infill Infrastructure Solutions (MiiS), which was available to all communication providers and allowed them to make use of BT's national network of poles, antennas and base stations for small cells. UKB explained

that MiiS encompassed BT's frequency range, which differed from UKB's and meant that UKB would have to purchase a variation of that product. UKB stated it already had unequal bargaining power and BT's dominant position allowed it to decide whether there was any commercial benefit in making available a variation of the product available to third parties. UKB mentioned it could use the Statement of Requirements (**SoR**) procedure to request a variation but there was no compulsion on BT to actually provide a product, only for its request to be considered.

13. Secondly, UKB was concerned with the impact of the merger on the provision of backhaul to its fibre and wireless local networks. UKB stated this was significant to all third party competitors and any reduction in the quality of service (**QoS**) would be detrimental. UKB submitted that it relied on BT and to a lesser extent third party network providers to backhaul its broadband traffic from its fibre and wireless hubs to its core network. UKB explained that its wireless business purchased backhaul from BT on an ad hoc basis as its demands had until now been relatively low in volume. Its Keycom subsidiary, on the other hand, relied heavily on BT and ordered backhaul circuits in higher volumes. UKB stated that, as a new entrant with low volume commitments, it struggled to gain recognition from BT in comparison to purchasing from Virgin Media (a competitor with less market dominance). For example, UKB mentioned it had halted work on a proposed rural broadband deployment in Herefordshire, as it was unable to secure a competitive backhaul price with BT that would allow it to run it an economical cost. UKB submitted that, as a result of the merger, BT would exert greater control of the backhaul market and further dictate the level of supply.
14. Thirdly, UKB was concerned with the fact that the merger would occur in a market that was already highly concentrated and difficult for a quasi-fourth wireless operator to enter. For example, the proposed merger would create an entity that would be extremely efficient in its service propositions, because it would join up the ownership of different frequencies and blocks of spectrum. UKB submitted that this would act as a major competitive constraint for a fourth competitor to enter the market. It believed that there was a real need for competition in the provision of backhaul, the capacity layer and the wholesale supply of mobile to MVNOs.
15. Fourthly, UKB said that the merger would create for the first time in the UK a dominant service provider able to support a 'joined up' consumer experience in the three areas of fixed broadband, Wi-Fi and mobile. UKB explained that the merger would merge BT's existing 5 million Wi-Fi hot spots with EE's existing Wi-Fi, mobile broadband and voice propositions, creating a dominant provider that could control the data market of the future. UKB stated that the dominant provider would be in a position of control over its competitors on

access to Wi-Fi, backhaul and fibre and would determine the timing and pace of upgrades. UKB said that this extended level of dominance would make it re-think its future investment in these areas.

16. Finally, UKB considered that the spectrum portfolio of the merged entity would be extensive and lead to a dominance in the higher frequency spectrum band allowing it to foreclose its competitors from certain segments of the wholesale mobile market.

## **Small cells**

17. UKB said that there was opportunity in the use of small cells (including pico-cells and femtocells). It stated that the ranges of cell coverage and usage differed but could enable a greater degree of connectivity. For example, a single device could connect through fixed and Wi-Fi networks enabling greater coverage and capacity to be made available to a customer.
18. UKB said that there was a distinction between femtocell coverage and small cell coverage. A femtocell was similar to a Wi-Fi router and designed for use in the home for improving indoor coverage on a mobile interface, whilst a small cell would require more backhaul to the communication providers' core networks.
19. UKB stated that small cells were costly to install (in the region of [£]) and to facilitate deployment of small cells required sufficient spectrum.

## **Spectrum and capacity**

20. UKB stated it had a significant holding of licensed high frequency 4G spectrum and deployed 4G LTE networks to deliver superfast broadband services wirelessly.
21. UKB said that it had owned 3.5GHz spectrum since 2005 and had engaged in research and development on the use of this spectrum in the UK market. The development of LTE [4G] technology had provided the opportunity to launch next generation services over high-capacity, [4G] data networks. It stated that in 2016 LTE spectrum would be launched in Japan with a deployment of over 10 million handsets, and trials were currently taking place in China. It stated that, according to Qualcomm, by 2017 all types of devices would support LTE spectrum frequency.
22. UKB stated that its spectrum bands were designed for LTE-TDD and used with GPS synchronisation timing and the fact that LTE-TDD spectrum is up to 40% more efficient in capacity terms than FDD spectrum.

23. [REDACTED]. It stated that EE already held 2.6GHz spectrum and BT's holdings would considerably increase the merged entity's portfolio, resulting in a large block of capacity that would support more users than its competitors. It stated that in order for there to be fair competition and a balance in the capacity layer, the incremental 2.6GHz spectrum holding should be made available to its competitors by either allocation, sale or auction.
24. It stated that effective remedies should involve wholesale access to BT's spectrum and the use of 'Multi-Operator Core Networks' (MOCNs), which had been required by the authorities in Hong Kong. MOCNs would be an effective remedy in the use of spectrum for networks that have already been built, as competition was supported by the frequency carrier being shared efficiently and allowed demand to drive the use of spectrum.
25. UKB was concerned with Ofcom's proposals to auction 2.3GHz and 3.5GHz spectrum and design any spectrum caps in relation to that auction before the outcome of the proposed mergers became clear.

## **Rural broadband**

26. UKB noted that the provision of fibre broadband to rural communities in a cost effective manner was challenging. There were several cost drivers; in particular, in low density populated areas the investment was spread over much smaller areas which required a much higher take-up of services to be profitable. Additionally, there were homes and/or areas where the distance from the exchange base was too great to provide an adequate fixed fibre broadband service. For example, homes located much more than 1 kilometre away from an exchange might achieve a connection of only around 256 kilobytes per second.
27. UKB noted that LTE wireless broadband could be an alternative solution for villages without a copper or fibre solution. UKB said that it relied on BT's network of nodes and local exchanges to provide fibre backhaul to rural areas. UKB stated it paid BT an "excess construction charge" on any planned extension from BT's nearby network nodes to its own base station. This meant that it had essentially been required to finance the extension of BT's own network.
28. UKB stated that its research had indicated there would be a [REDACTED] per cent take up in demand of LTE in UK rural areas [REDACTED].
29. UKB stated that for BT broadband customers it was difficult to switch across service providers as BT used an Equivalence Management Platform (**EMP**). It stated that EMP was designed to allow switching between ISPs who resold

BT broadband products and was not available for switching to and from alternative network operators. It stated that this created barriers in switching costs for third party network providers. For example, in Swindon, network customers could access Sky when they were reselling BT through its EMP, but the EMP would not be available for a customer wanting to access Sky through UKB's local access network.

## Mobile backhaul

30. UKB stated it relied on BT and third party network providers to backhaul its traffic, and required sufficient capacity to satisfy current demand and cope with future growth. Its supplier of backhaul varied depending upon location and capability of existing fibre networks, but it was primarily BT and to a smaller extent Virgin Media. UKB stated that its choice of suppliers was particularly limited outside London and was usually BT since it had a ubiquitous network infrastructure. For example, in the provision of services to a small business park [REDACTED] BT was the closest to the site and it was cost prohibitive to go with any other supplier. It said additional costs were incurred in the supply side as this had required an extension of the network and new building of fibre (as BT's base site had been supported by copper).
31. UKB stated that the length of contracts for mobile backhaul were typically short term [REDACTED]. It stated that it sought more stability in having longer contracts as a surety that its backhaul would be provided to its base stations, which it had incurred heavy investment in establishing.
32. For backhaul from its radio masts, UKB used a combination of its own microwave links and unmanaged third party backhaul, including BT's Ethernet Access Direct (**EAD**). For backhaul from its hub sites to its core network, it required managed services, such as BT Wholesale's MEAS. Its wireless data networks comprised 4G LTE and high capacity microwave links. [REDACTED].
33. UKB submitted that discussions with other MNOs had shown a desire to move across from mobile voice networks to data networks that could provide the increased amount of data capacity which consumers were demanding. It stated the future of the UK market would be in line with other countries such as Hong Kong, which had high capacity data networks accommodating voice and were run alongside Wi-Fi and dark fibre. For example, in Hong Kong backhaul capacity was greater than the UK enabling up to 1 GB/s to be provided to the consumer via multiple technologies at the edge, including Wi-Fi, cellular and fixed line.
34. UKB were concerned that greater utilisation of fixed infrastructure in the UK market was being restricted by BT's dominance, as reflected in the limited

suppliers of backhaul. For example, it stated that there was a genuine demand for unmanaged services but there was greater economic value for BT in selling a managed service.

35. UKB stated that in order to compete in the UK data-centric market it required sufficient levels of coverage and capacity. It stated that in order to acquire sufficient backhaul capacity, it purchased fibre rather than copper backhaul.
36. It noted that BT was not active in the provision of dark fibre, and it welcomed Ofcom's recent proposals for BT to offer and compete in dark fibre. However, it expressed concern about Ofcom's proposed approach to pricing and believed that a 'cost plus' approach to dark fibre pricing would be more appropriate.
37. UKB was also concerned that Ofcom's proposals had been focused too heavily on the market for leased line dark fibre for businesses (for example, companies who purchased the product and then resold the circuit as a leased line to other customers). UKB explained that this overlooked third party competitors (such as itself) that would use dark fibre on its own network and own backhaul. Ofcom had been concerned about encouraging unsustainable market entry but UKB stated that the market itself should be in a position to decide what is sustainable and unsustainable.

## **Wholesale mobile and MOCN arrangements**

38. UKB stated that it did have an MVNO agreement in place with H3G which allowed national roaming for its wireless broadband solution, but there were potential short-comings in these agreements. For example, it did not have parity with offers available to H3G's customer base or access to new innovations. Conversely, as UKB continued to grow, [REDACTED], it was looking to offer wholesale access to its network in London to other MNOs.
39. UKB described HKT's network sharing arrangements in Hong Kong, which took the form of MOCNs. UKB explained that HKT initially entered into MOCN agreements in Hong Kong due to the open market policy adopted by the telecoms regulator. As the incumbent network operator, HKT opened up its 3G network to a new entrant, China Mobile, allowing quick entry into the market by sharing its Radio Access Network (RAN).
40. UKB also noted that HKT's MOCN agreement with Hutchison in Hong Kong had enabled 4G to be rolled out faster as both companies worked in conjunction with each other to purchase spectrum and build a shared network, allowing for competitors to enter the business.

41. UKB submitted that its adoption of MOCN agreements in Hong Kong had been economically successful and allowed for a highly competitive market. UKB considered that, along with spectrum divestment, MOCNs could be an effective remedy if the proposed merger was successful to ensure a more open market and that neither BT nor EE had any unfair advantages over its competitors. UKB stated it would be willing to provide the CMA with supplementary information on its Hong Kong's MOCN agreements if required.