

# Hull Area Wholesale Fixed Telecoms Market Review 2021-26

Volume 2: Market Assessment

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# 1. Background

- 1.1 In this section, we set out background information on the network operators in the Hull Area, and the retail markets for the provision of broadband services and fixed voice services.
- 1.2 KCOM has a ubiquitous network in the Hull Area and faces minimal competition from alternative networks.
- 1.3 KCOM has regulatory obligations to offer wholesale access products. While these are actively used by retail competitors to supply leased lines, to date take-up of wholesale broadband products has been very small. Accordingly, KCOM has been able to retain over 90% of retail supply of broadband services. Providers with a significant market share in the rest of the UK, such as BT, Sky, TalkTalk and Virgin Media, do not provide broadband services in the Hull Area.
- 1.4 Similarly, KCOM supplies the vast majority of retail fixed voice services in the Hull Area. There is very limited use of fixed voice access products by retail competitors to provide voice services over analogue lines or ISDN lines.

## Network operators and the services provided over their networks

- 1.5 KCOM<sup>1</sup> is the incumbent telecoms provider in the Hull Area, and operates both an existing copper network, and a newly completed full-fibre network.
- 1.6 Two other telecoms providers have invested in fibre networks in the Hull Area, serving a small number of business customers:
  - a) CityFibre passes less than 1% of all premises and is within 50m of 10-20% [3<] of large business and mobile sites.<sup>2</sup> It has no current expansion plans within the Hull Area.<sup>3</sup> It has approximately 150-250 [3<] leased lines customer connections, the majority of which are dark fibre.<sup>4</sup> It currently provides dark fibre to mobile base stations operated by Mobile Broadband Network Limited (MBNL).<sup>5</sup>
  - b) MS3 passes 2% of all premises and is within 50m of 8% of large business and mobile sites.<sup>6</sup> It plans to cover a further 21,000 premises in the Hull Area by the end of June

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<sup>1</sup> KCOM Group Limited was acquired by Macquarie Infrastructure and Real Assets (MEIF 6 Fibre Limited) in August 2019. See [Macquarie Infrastructure and Real Assets finalises acquisition of KCOM Group](#), 19 August 2019 [accessed 8 July 2020].

<sup>2</sup> Information gathered for [Connected Nations update: Summer 2019](#); and Ofcom analysis of Market Location's 2018 Business Connectivity Report, CityFibre's response to the 1st BCMR s.135 notice, February 2018 and stakeholder responses to the 5th BCMR s.135 notice, February 2018.

<sup>3</sup> CityFibre's 1<sup>st</sup> RFI response.

<sup>4</sup> CityFibre's 1<sup>st</sup> RFI response. Overall there are approximately [3<] wholesale CI access leased lines in the Hull Area. See 2019 BCMR Statement, Table 9.1.

<sup>5</sup> MBNL is a network co-owned by EE and Three which is used to deliver mobile services. See [CityFibre signs deals with EE and Three to enhance mobile networks](#), 13 November 2013 [accessed 29 June 2020].

<sup>6</sup> MS3's 1<sup>st</sup> RFI response and Ofcom analysis of Market Location's 2018 Business Connectivity Report, MS3 response to the 1st BCMR s.135 notice, February 2018 and stakeholder responses to the 5th BCMR s.135 notice, February 2018.

2021, extending its network to reach around 13% of premises. It currently serves around 50-150 [redacted] customers with broadband or leased line services.<sup>7</sup>

1.7 Alongside these fibre networks, there are four wireless network operators providing broadband services: Connexin, Pure Broadband<sup>8</sup>, [redacted]<sup>9</sup> and Wisper. These providers offer speeds between 10 Mbit/s and 60 Mbit/s, focusing primarily on providing broadband to residential consumers.<sup>10</sup> Mobile networks also provide broadband services for homes and businesses using 4G and, more recently, 5G.

## Retail broadband services

### Providers in the Hull Area

1.8 There is very little competition for retail broadband in the Hull Area.

1.9 KCOM supplies the vast majority (over 90%) [redacted]% of the fixed line retail broadband connections in the Hull Area. The remaining fixed line retail broadband services are offered by local telecoms providers which resell KCOM’s retail services under a white-label arrangement, predominantly to business customers. These white-label products are broadband services that can simply be resold to retail customers – providing aspects such as billing and customer service, but not providing any technical elements. By their nature these services offer very little scope for innovation. These resellers – such as Excel Telecom, River and The One Point – offer broadband products at slightly lower prices than KCOM, but take-up is very low.<sup>11</sup>

1.10 There is a slightly higher take-up of fixed wireless access (FWA) services, supplied by local telecoms providers, however this also remains low.<sup>12</sup> Overall, KCOM accounts for the vast majority (over 90%) [redacted]% of retail broadband supply in the Hull Area including FWA.<sup>13</sup>

**Figure 1.1: Retail broadband shares of supply in the Hull Area**

Provider	Retail share (incl. FWA)	Retail share (excl. FWA)
KCOM	>90% [redacted]%	>90% [redacted]%
FWA	[redacted]%	n/a
Resellers	[redacted]%	[redacted]%
Alternative networks (MS3 and CityFibre)	[redacted]%	[redacted]%

<sup>7</sup> MS3’s 1<sup>st</sup> RFI response.

<sup>8</sup> Pure Broadband also offers fixed broadband retail services through reselling KCOM products.

<sup>9</sup> [redacted]. [redacted].

<sup>10</sup> [redacted], [redacted], [redacted].

<sup>11</sup> [redacted], [redacted], [redacted], [redacted], [redacted].

<sup>12</sup> Around [redacted] customers take these FWA services in the Hull Area. [redacted], [redacted], [redacted], [redacted].

<sup>13</sup> All providers’ 1<sup>st</sup> RFI response.

## Fixed broadband product characteristics

1.11 KCOM offers a range of broadband services over its full-fibre network. In general, these products have comparable characteristics to products offered in the rest of the UK, as outlined in Figure 1.2 below.

**Figure 1.2: Fixed retail broadband product characteristics in the Hull Area compared to the rest of the UK**

	KCOM	BT	Virgin Media	Sky	TalkTalk	Plusnet	EE
<b>Headline speeds (Mbit/s)</b>	<24, 30, 75, 200, 400, 900	17, 30, 50, 67, 145	50, 100, 200, 350	11, 59, 145	11, 38, 67, 145, 900	10, 36, 66	10, 36, 67, 145, 300
<b>Contract length (months)</b>	12	18	12	18	18	12/18	18
<b>Usage limit</b>	20GB– Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
<b>Primary technology</b>	Copper; FTTP	Copper; FTTC	Cable	Copper; FTTC	Copper; FTTC	Copper; FTTC	Copper; FTTC
<b>Inclusive calls</b>	Available as add-on	Available as add-on	Free weekend	Available as add-on	Available as add-on	Available as add-on	Available as add-on
<b>TV</b>	No	Available as add-on	Available as add-on	Available as add-on	No	No	No

Source: Provider websites [accessed 9 June 2020]. Products available for new supply only.

1.12 There are two key differences between the retail broadband services consumers are purchasing in the Hull Area compared to the rest of the UK:

- a) **Data caps:** Some, [X], of KCOM sales have data caps, while almost all consumers in the rest of the UK take products with unlimited data usage.<sup>14</sup> [X]% of KCOM's customers take a data-capped product, and [X]% of these consumers have a data cap of 150GB or less per month.<sup>15</sup> These data constraints are significant. Data usage in the UK has increased significantly in recent years; average usage in 2019 was 315GB per

<sup>14</sup> We note that KCOM has temporarily removed data caps for all online activities during the COVID-19 pandemic. See KCOM, '[Keeping you connected](#)', dated 20 March 2020. Also see Ofcom, '[How broadband and mobile firms are serving customers during the coronavirus pandemic](#)', 1 April 2020. [Accessed 9 July 2020].

<sup>15</sup> Ofcom analysis of KCOM 1<sup>st</sup> RFI response. For comparison, around 3% of broadband consumers in the rest of the UK take data-capped products. See Ofcom, September 2019. Helping consumers get better deals, [Annex 4 – Analysis of provider data](#), paragraph A4.11.

month, increasing from 240GB in 2018.<sup>16</sup> Market research carried out by telecoms providers suggests that data volumes will continue to increase.<sup>17</sup>

- b) **FTTP connections:** 75-85% ([3<]) of KCOM's fixed broadband consumers in the Hull Area take an FTTP broadband product<sup>18</sup>, whereas in the rest of the UK most broadband services are delivered over copper or cable, due to the low current availability of FTTP. All of KCOM's FTTP customers receive download speeds of at least 30Mbit/s.

## Fixed broadband retail pricing

- 1.13 To date, consumers in the Hull Area in general pay higher prices for broadband services than consumers in the rest of the UK.
- 1.14 As detailed above, fixed broadband customers in the Hull Area are more likely to purchase products subject to a data cap, whereas in the rest of the UK almost all customers purchase products with unlimited data. As we expect data consumption to increase during the review period, we have compared the price of taking an unlimited data product in the Hull Area with the rest of the UK.
- 1.15 Our assessment shows us that KCOM's list prices for its unlimited data dual play (landline and broadband) products are the highest in the UK for each speed it offers. This shown in Figure 1.3 below.

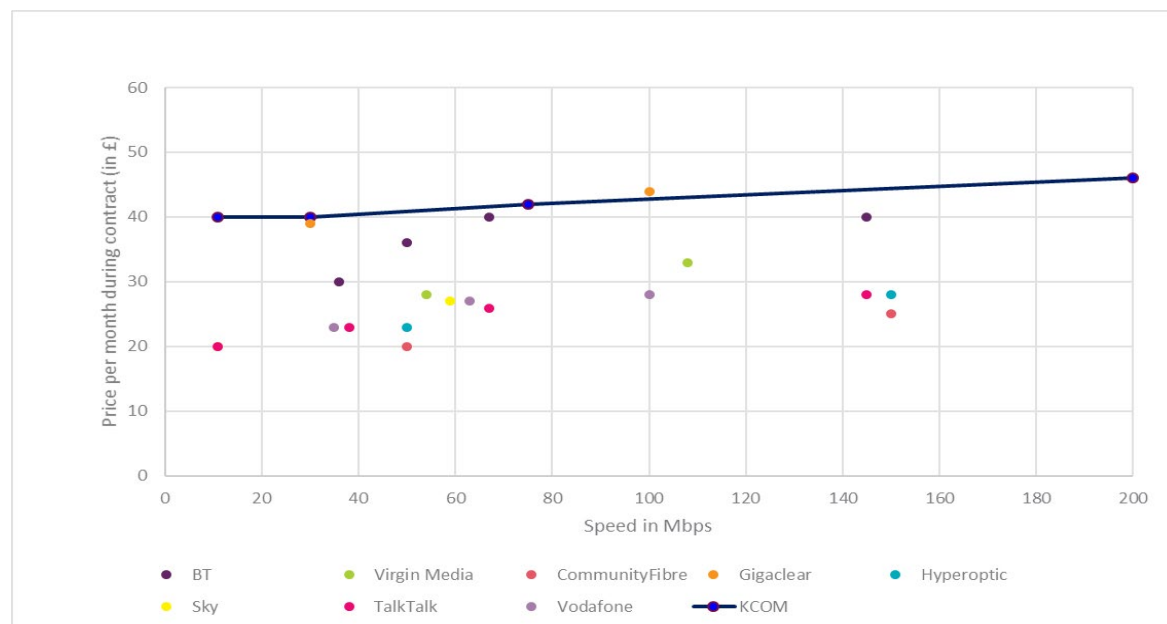
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<sup>16</sup> Similarly, the median data usage on fixed lines has increased by 30% to 164GB from 124GB in 2018. See Ofcom, December 2019. [Connected Nations](#), p.19. We note that average data usage (213GB) and median data usage (127GB) in the Hull local authority area is lower than in the rest of the UK. However, the extent to which these figures reflect the existence of data caps is unclear. See Connected Nations 2019 [data downloads](#) and [data on fixed and local unitary authority](#).

<sup>17</sup> 2020 WFTMR Consultation, [Volume 2](#), paragraphs 2.28-2.30.

<sup>18</sup> Ofcom analysis of KCOM 1<sup>st</sup> RFI response.

**Figure 1.3: Advertised prices for dual play (landline and broadband) products offering unlimited data, May 2020<sup>19</sup>**



Source: Provider websites accessed May 2020. All prices shown are for products with unlimited data; prices for national providers are new-contract prices.

- 1.16 KCOM's cheapest unlimited broadband product costs £40 per month.<sup>20</sup> In the rest of the UK, consumers benefit from a range of providers offering broadband products (including some superfast broadband products) with unlimited data usage at or around £20-£30 per month for new-contract customers.<sup>21</sup>
- 1.17 The average amount KCOM's customers pay for broadband is therefore currently higher than in the rest of the UK. However, at the time of undertaking this market review, KCOM was already in the process of reviewing its portfolio of retail prices, and we understand that when that new portfolio is implemented, it will bring prices more into line with the rest of the UK.

## Fixed wireless access operators

- 1.18 Broadly, there are two types of fixed wireless access networks offering broadband services to end consumers in the Hull Area:<sup>22</sup>

<sup>19</sup> While not plotted in this graph, we have also found that KCOM's retail prices for its 400Mbps product (£50/mth) and 900Mbps product (£79/mth) are the highest, or nearly highest, in the UK for those speeds.

<sup>20</sup> This price does not take account of any time-limited offers. For example, new residential customers (defined by KCOM as those who do not already receive KCOM Lightstream services) taking [KCOM's 30mps unlimited Lightstream package](#) between 13 May and 12 August 2020 will pay the discounted price of £25 per month for the initial 12-month contract period (usually £40) [accessed 23 June 2020].

<sup>21</sup> We note that the actual prices paid by customers may differ from advertised prices for a number of reasons. Existing customers may have contracts for prices offered in the past. Prices for out-of-contract and re-contracting customers may differ from in-contract prices (see Ofcom, September 2019. [Helping Consumers get better deals](#) for more information).

<sup>22</sup> A typical FWA network topology is shown in Annex 6, Figure A6.14.

- a) Fixed wireless operators using licence-exempt or light-licensed spectrum in the 5GHz band (WISPs);<sup>23</sup>
- b) MNOs using their 4G and, more recently, 5G mobile networks to deliver fixed wireless access services (4G/5G FWA).

### Wireless Internet Service Providers (WISPs)

1.19 WISPs use licence-exempt or light-licensed spectrum to deliver a wireless broadband connection to a fixed location.<sup>24</sup>

1.20 Figure 1.4 shows the prices and product characteristics for three telecoms providers offering services [redacted] in the Hull Area.<sup>25</sup>

**Figure 1.4: FWA product characteristics in the Hull Area**

	Connexin	Pure Broadband <sup>26</sup>	Wisper
<b>Monthly price</b>	£18-35	£15-25	£20-35
<b>Set-up cost</b>	Free	Free	£7pcm or £147
<b>Headline speeds (Mbit/s)</b>	10, 20, 60	20	60
<b>Average speed (Mbit/s)</b>	[redacted], [redacted], [redacted]	[redacted]	[redacted]
<b>Contract length</b>	18 months	30 day rolling contract	No minimum
<b>Usage limit</b>	100GB-Unlimited	50GB-Unlimited	30GB–Unlimited

Source: [home.connexin.co.uk](http://home.connexin.co.uk), [home.purebroadband.net/packages/all](http://home.purebroadband.net/packages/all), <https://www.wisperbroadband.com/> [accessed 9 July 2020] and Pure Broadband and Connexin’s 1<sup>st</sup> RFI responses.

1.21 These fixed wireless access providers tend to offer products with characteristics equivalent to those of KCOM’s standard broadband services, often with unlimited data, with comparable (or in some cases cheaper) prices. These packages may offer other benefits, such as flexible contracts with no minimum length.

1.22 However, take-up remains low.<sup>27</sup>

### 4G/5G FWA

1.23 EE, Three and Vodafone offer home broadband services using their mobile networks, using 4G and, more recently, 5G (as outlined in Figure 1.5 below). These services share many of

<sup>23</sup> This is explained in more detail in Annex 6.

<sup>24</sup> As this service operates on licence-exempt or light-licensed frequencies, they can suffer from interference from nearby services’ frequencies.

<sup>25</sup> [redacted]

<sup>26</sup> Pure Broadband also offers some higher speed FWA services.

<sup>27</sup> Around [redacted] customers take these FWA services in the Hull Area. [redacted], [redacted], [redacted], [redacted].



the characteristics of mobile broadband but are optimised for home usage by, for example, locating customer modems in optimal locations in customer premises.

- 1.24 Depending on traffic and capacity in the network, speeds can vary and are around 20Mbit/s for 4G and 150Mbit/s for 5G for an average user experience. However, these products tend to have higher prices and higher set-up costs than WISP products, especially 5G FWA products.

**Figure 1.5: 4G/5G home broadband packages provided by EE, Three and Vodafone, June 2020**

MNO	Data	Price /month	Contract length	Upfront fee
<b>EE 4GEE Router</b>	100 GB	£35	18 months or 1 month	£50 or £150
	200 GB	£40		
	300 GB	£45		
	500 GB	£50		
<b>Three HomeFi 4G broadband</b>	Unlimited	£30	1 month	£29
		£27	12 months	£29
		£22	24 months	£0
<b>Vodafone 4G Gigacube</b>	100 GB	£30	18 months	£0
	200 GB	£40	or 30 days with £100 upfront fee	£0
	300GB	£50		£0
<b>EE 5GEE Router</b>	1,000 GB	£70	18 months	£100
<b>Vodafone 5G Gigacube</b>	100 GB	£30	18 months	£100
	200 GB	£40	or 30 days with £325 upfront fee	£50
	Unlimited	£50		£50

Sources: <http://shop.ee.co.uk/>, <http://www.three.co.uk/store/broadband/home-broadband>, <https://www.vodafone.co.uk/gigacube/>, [accessed 26 June 2020].

## Retail fixed voice services

- 1.25 There continues to be widespread use of fixed voice services in the Hull Area. The amount of fixed telephone lines (purchased as part of dual-play and standalone phone services) being used in the Hull Area has remained relatively stable, although we have observed a small decline in the last year.<sup>28</sup>

<sup>28</sup> According to [KCOM's Regulatory Financial Statements 2018/19](#) (RFS 2018/19), there was a 3% decline in overall WFAEL volumes (173,549 in 2017/18 to 168,897 in 2018/19). Overall WFAEL volumes include sale of KCOM's retail voice products, as well as retail-minus and its wholesale access product (KCOM Line Rental) [accessed 8 July 2020].

1.26 All fixed analogue telephone lines in the Hull Area are provided using KCOM’s copper network. Of these, the vast majority (c. 95%) are used by KCOM to supply its own retail customers.<sup>29</sup> Some other Hull-based telecoms providers buy retail-minus<sup>30</sup> services from KCOM to supply fixed voice services to end-users. A small number of consumers are supplied fixed analogue telephone lines by telecoms providers using KCOM Line Rental<sup>31</sup> (KLR).<sup>32</sup>

## ISDN products

1.27 ISDN services continue to be purchased; however, as illustrated in Figure 1.6, volumes are low and have mostly been declining.

Figure 1.6: ISDN volumes from 2016/17 to 2018/19

	2016/17	2017/18	2018/19
ISDN2 Lines	4,253	3,289	2,875
ISDN2 Lines % change		-23%	-13%
ISDN30 Channels <sup>33</sup>	9,379	10,555	9,381
ISDN30 Channels % change		13%	-11%

Source: KCOM’s Regulatory Financial Statements 2018/19

1.28 KCOM retail products account for c. 70% of ISDN2 lines and c. 85% of ISDN30 channels.<sup>34</sup> The majority of the remaining volumes sold are retail-minus services bought by Hull-based telecoms providers. There is very limited use by telecoms providers of KLR to provide ISDN2 and ISDN 30 services.<sup>35</sup>

## Fixed voice call volumes

1.29 Between 2013/14 and 2018/19 the number of call minutes originating on KCOM’s network has reduced by 45%. In the same period the number of telephone lines has only reduced by 4%.<sup>36</sup>

<sup>29</sup> KCOM’s 1<sup>st</sup> RFI response.

<sup>30</sup> ‘Retail-minus’ products are white-label products that can be resold to retail customers, with resellers providing aspects such as billing and customer service, but not providing any technical elements. The retail-minus product is fundamentally the same as KCOM’s retail product.

<sup>31</sup> KLR is a wholesale access product which enables other telecoms providers to supply voice services over KCOM’s WFAEL, ISDN2 lines or ISDN30 lines.

<sup>32</sup> Less than 0.5% of fixed analogue voice services are provided by external suppliers using KLR (KCOM’s 1<sup>st</sup> RFI response).

<sup>33</sup> From 2016/17 onwards, KCOM has only recorded ISDN30 volumes as channels in its accounts, as opposed to the number of physical lines. Each ISDN30 line carries a minimum of 6 channels and a maximum of 30 channels. Therefore c. 9,000 ISDN30 channels is equivalent to a minimum of 300 ISDN30 lines and a maximum of c.1,500 ISDN30 lines. KCOM’s 1<sup>st</sup> RFI response.

<sup>34</sup> KCOM’s 1<sup>st</sup> RFI response.

<sup>35</sup> In Q3 2019/20, less than 1% of KCOM’s ISDN2 lines ([3<]) and ISDN30 lines ([3<]) were provided to customers by other telecoms providers using KCOM’s KLR service over ISDN exchange lines. KCOM’s 1<sup>st</sup> RFI response.

<sup>36</sup> According to RFS 2018/19, there was a 45% decline in WCO volumes from 2013/14 (0.6bn minutes) to 2018/19 (0.33bn minutes). However, there has only been a 4% decline in WFAEL volumes from 2013/14 (175,690) to 2018/19 (168,897).

## KCOM's retail prices for residential standalone phone services

1.30 Retail prices for KCOM's standalone telephone services appear to be broadly comparable to products from other providers in the rest of the UK. As outlined in Figure 1.7, some of KCOM's packages are cheaper than comparable voice-only products from BT and the Post Office although it should be noted that while these call plans are similar, they are not exactly the same.

**Figure 1.7: KCOM's retail voice-only products versus comparable call plans**

	KCOM	BT	Post Office
<b>PAYG</b>	£11.99	£12.14	£15.00
<b>Unlimited UK Landline calls</b>	£15.99	£21.99	£22.00
<b>Unlimited UK Landline and mobile calls</b>	£19.99	£27.14	£25.00

Source: Retail prices listed on websites of BT<sup>37</sup>, the Post Office<sup>38</sup> and KCOM<sup>39</sup>.

<sup>37</sup> In line with BT's commitment with Ofcom on voice only customers, BT applies a [£8.06 discount to phone packages](#) for customers that do not have broadband. The £8.06 discount has been applied to the numbers presented in the table. BT's 'Home Phone Saver' product (priced at £21.99) is comparable to KCOM's 'Unlimited UK Landline calls' product, although BT's product also includes such landline calls, as well as 1000 minutes to BT mobile numbers. These prices are outlined in the [BT Consumer Price Guide](#), effective from 26 June 2020 [both accessed 8 July 2020].

<sup>38</sup> The comparable Post-Office call plans from the Post Office are its 'Anytime' plan (at £22) and its 'Anytime Plus' plan (at £25). 'Anytime' limits calls to 0870 and 0845 numbers to 1000 minutes. 'Anytime Plus' also includes 1000 minutes of calls to UK mobiles numbers and 1000 minutes of calls to landlines in "Anytime Plus 15 countries". These prices are outlined on the [Post Office website](#). [accessed 3 July 2020].

<sup>39</sup> KCOM's ['Unlimited UK Landline calls' plan](#) includes unlimited calls to 01, 02, 03, 0845 and 0870 numbers [accessed 3 July 2020].

## 2. Wholesale local access market definition and significant market power

- 2.1 In this section, we set out our assessment of the product market definition, geographic market definition and market power for the Wholesale Local Access Market in the Hull Area.
- 2.2 We previously reviewed this market in 2018. We defined a single market for the supply of wholesale local access at a fixed location in the Hull Area, and found that KCOM held Significant Market Power (SMP) in that market.<sup>40</sup>
- 2.3 We adopt a forward-looking perspective, taking utmost account of the 2014 EC Recommendation and the EC SMP Guidelines.
- 2.4 In summary, we propose to:
- a) Define the WLA market as a single product market for the supply of wholesale local access at a fixed location;
  - b) Define the Hull Area as a separate geographic market from the rest of the UK for the WLA product market;
  - c) Conclude that KCOM holds Significant Market Power (SMP) in the supply of WLA products within the Hull Area over the review period.

### Wholesale local access and the retail services it supports

- 2.5 Local access is the service underpinning most consumers' fixed voice and broadband packages. It comprises access to the network assets used by retail telecoms providers to deliver differentiated services and bundles to residential and business customers at a fixed point close to the end-user. The services include:
- a) Broadband;
  - b) The ability to make and receive voice calls; and
  - c) The ability to receive TV content.
- 2.6 Although multiple services can be provided over a local access connection, the key supply requirement is the local access connection itself. Once a connection is in place, a range of services can be supplied. While wholesale local access is a key input for all these retail services, of the retail services listed, the most important is broadband.

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<sup>40</sup> 2018 WLA/WBA Statement, paragraph 3.6.

## Product market definition

2.7 We have recently analysed voice and broadband markets in the rest of the UK (excluding the Hull Area) in the Wholesale Fixed Telecoms Market Review 2021-26 Consultation.<sup>41</sup> We provisionally defined a single market for WLA services at all bandwidths. In reaching this provisional conclusion, we found that:

- a) Our focal product should include all fixed access networks (copper, fibre and cable), all bandwidth speeds, and all types of customer.<sup>42</sup>
  - i) Including all bandwidth speeds in the proposed focal product reflects the economies of scope inherent in supplying multiple downstream broadband services from a single access connection. Further, demand-side considerations (including the features of different broadband products, consumer behaviour and preferences and recent trends in wholesale access pricing) support a single product market including all speeds.
  - ii) Including all fixed access networks in the proposed focal product reflects that looking forward, a range of retail services with similar features will be delivered over a mix of fixed networks using full-fibre, FTTC or existing copper and cable connections.
  - iii) Including both residential and business-grade broadband services in the proposed focal product reflects both economies of scope and that the differentiated features of business broadband packages are generally features of the retail market, and not the WLA market.
- b) The constraint posed by leased lines, and the constraint posed by retail services provided over wireless technologies were each not sufficient to warrant inclusion within the relevant product market.<sup>43</sup>
  - i) While business grade ultrafast broadband services could be an alternative for some leased lines users, broadband and leased lines products will continue to have distinct features, with leased lines products providing end-users with a higher quality service (tending to offer services which are symmetric, uncontended and dedicated) at higher prices. On the supply-side, the network architecture required to support leased lines and broadband access services are different.
  - ii) Use of FWA for provision of services at a fixed location would continue to be limited because of lower supported speeds, constrained capacity and limited coverage compared to fixed services. We also recognised that, while current evidence does not suggest 5G FWA services would exert a material competitive constraint, this constraint could develop during the market review period. We proposed that 4G mobile broadband was complementary to fixed broadband,

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<sup>41</sup> 2020 WFTMR Consultation, Volume 2, paragraphs 2.2-2.70 and 6.22-6.66.

<sup>42</sup> 2020 WFTMR Consultation, Volume 2, paragraphs 6.25-6.52.

<sup>43</sup> 2020 WFTMR Consultation, Volume 2, paragraphs 6.53-6.65.

rather than a substitute, as consumers tend to have both fixed and mobile services, and that how the quality of 5G mobile services will compare to fixed broadband as the network is rolled out and services mature was unknown. We also considered that satellite services are not a close substitute for fixed broadband due to the high prices, limited download allowance and longer latency. LEO satellites, a technology which may address this, are only now beginning to be deployed, so services are not yet available, and their commercial impact is untested.

- 2.8 In general, we would expect that the same product market exists in the Hull Area too, because voice and broadband services can be used to perform the same functions regardless of where they are delivered geographically. We therefore rely on the evidence and conclusions set out in the 2020 WFTMR Consultation, and focus our further analysis below on any possible differences between the Hull Area and other areas of the UK, which might affect the product market.
- 2.9 We consider a relevant difference to be that fixed wireless providers have been present in the Hull Area for many years, and there is proportionately greater coverage of fixed wireless access services from WISPs in the Hull Area. We therefore consider the constraint imposed by fixed wireless broadband provided by WISPs in more detail below.<sup>44</sup>
- 2.10 While the market definition exercise precedes the market power assessment, the precise market definition will not in our view affect our market power assessment; KCOM accounts for over 90% of connections even if fixed wireless access services by WISPs are included.

### Fixed wireless access services provided by WISPs

- 2.11 Take-up of fixed wireless services has remained low – and has begun to stall in recent months<sup>45</sup>, despite the fact that fixed wireless providers have been present in the Hull Area for many years, covering a large portion of the Hull Area, and offering products often with unlimited data and comparable (or in some cases cheaper) prices to fixed broadband products.<sup>46</sup>
- 2.12 This means that in practice, only a limited number of consumers see fixed wireless access services as substitutes to retail packages delivered over fixed broadband connections on the KCOM network.
- 2.13 Given the low take-up of FWA services in the Hull Area, despite the relatively high coverage in the Hull Area, we provisionally consider that fixed wireless broadband is unlikely to act

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<sup>44</sup> We note a KCOM board paper suggests that KCOM considers that 5G FWA could be a competitive threat in the coming years, for very low data usage customers [redacted]. However, [redacted]. We do not consider that this evidence alters our provisional view outlined in 2020 WFTMR Consultation, Volume 2, paragraphs 2.66-2.69 and 6.60, that 5G FWA services would not exert a material competitive constraint on fixed access services, but recognise this is an area that could develop during this market review. KCOM's 1<sup>st</sup> RFI response and Ofcom analysis of KCOM's 1<sup>st</sup> RFI response.

<sup>45</sup> Around [redacted] customers take these FWA services in the Hull Area. There is mixed evidence on future take-up of FWA services. In 2019, take-up of FWA services in the Hull Area fell. On the other hand, forecasts provided by [redacted], [redacted] and [redacted] suggest a net addition of around [redacted] FWA customers during the review period. [redacted], [redacted], [redacted], [redacted].

<sup>46</sup> See Figure 1.4. This may reflect the fact that supported speeds of fixed wireless services tend to be lower than those available of KCOM's FTTP network. Indeed, 86% of FWA customers take products which provide an average expected speed of less than 30Mbps – the minimum speed available on an FTTP network. Ofcom analysis of [redacted], [redacted], [redacted], [redacted].

as a material constraint on a hypothetical monopolist of fixed broadband, and so should not be included as part of the relevant product market.

## Conclusion on WLA product market definition

- 2.14 Based on the analysis set out above, we propose to define a single product market for WLA services at a fixed location which:
- a) includes all fixed network technologies (copper, fibre, cable), all bandwidths and services provided to both residential and business customers; and
  - b) does not include leased lines or wireless services.

## Geographic market definition

- 2.15 Competitive conditions are not homogenous between the Hull Area and the rest of the UK. In the Hull Area, KCOM is the incumbent, there has been no unbundling of KCOM’s exchanges nor roll-out of competing cable infrastructure and KCOM continues to dominate retail broadband sales.
- 2.16 We also consider that there are no material variations in competitive conditions within the Hull Area. While MS3 and CityFibre have invested in FTTP infrastructure, they are at present very small covering less than 3% of premises in combination, and we consider that this is unlikely to change materially over the review period (see above, paragraph 1.6).
- 2.17 Therefore, we consider that the relevant geographic market is the Hull Area. We therefore define the relevant market as wholesale local access services provided at a fixed location in the Hull Area. This is in line with our longstanding practice.

## Market power assessment

- 2.18 KCOM has a near 100% share of the WLA market, as shown in Figure 2.1. This reflects the fact that KCOM has a ubiquitous network in the Hull Area, and existing alternative networks are very small.

**Figure 2.1: Wholesale local access market shares in the Hull Area**

Provider	Market share
KCOM	~100%
MS3	[<]%
CityFibre	[<]%

- 2.19 These alternative networks are also not expected to expand significantly in the review period. For example, while MS3 intends to increase the number of retail and wholesale

customers it serves over the review period, even by its own projections it will still serve only a very small fraction of customers in the Hull Area.<sup>47</sup>

- 2.20 This very high market share, and the lack of planned or expected network build, provides strong evidence that KCOM holds a position of SMP in the Hull Area. A number of other factors support this finding:
- a) Scale entry requires significant sunk investment and takes significant time. The asymmetry between KCOM, which has already incurred sunk costs in creating a ubiquitous full-fibre network in the Hull Area, and potential entrants which have not, gives rise to barriers to entry and expansion.
  - b) KCOM's retail prices are, in general, higher than those in the rest of the UK. KCOM's wholesale prices also appear to be higher than Openreach's equivalent price.<sup>48</sup>
  - c) Given the lack of alternative WLA suppliers and high barriers to entry, countervailing buyer power is likely to be weak given potential purchasers cannot pose a credible threat to switch sufficiently large volumes of consumers to alternative suppliers.
- 2.21 We consider that the external constraints on KCOM arising from out-of-market products (which nevertheless some customers might regard as substitutes to in-the-market products), such as FWA services and mobile broadband services, are weak and likely to remain so for this review period.
- 2.22 Accordingly, we provisionally conclude that KCOM will have market power in the WLA market in the Hull Area for the duration of the review period.

## Consultation questions

Question 2.1: Do you agree with our proposed market definition of the WLA market? Please set out your reasons and supporting evidence for your response.

Question 2.2: Do you agree with our proposal that KCOM holds SMP in the supply of WLA products in the Hull Area? Please set out your reasons and supporting evidence for your response.

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<sup>47</sup> MS3 forecasts to supply between 300 and 500 ([&<]) customers with FTTP broadband services by 31 December 2025. MS3's 1<sup>st</sup> RFI response.

<sup>48</sup> For example, the rental price of KCOM's Wholesale FibreLine Local Access 30/15, for a transition product at service level 2 is £7.40/mth, and for a data only product is £15.59/mth. The closest equivalent product available on Openreach's network (GEA-FTTP 40/10 where GEA-FTTC is not available, which is subject to a charge control) is £5.00/mth for the transition variant and £12.11/mth for the data only variant. See [KCOM's Wholesale FibreLine Local Access Price List](#) (dated 1 May 2019) and [Openreach's Superfast and Ultrafast Fibre Access Price List](#) (dated 28 April 2020) [accessed 25 June 2020].



## 3. Wholesale leased lines access services market definition and significant market power

- 3.1 This section shows our market assessment and proposed SMP finding for wholesale leased lines access services (LL Access) in the Hull Area at all bandwidths. LL Access are the only type of leased lines services which we currently regulate in the Hull Area.
- 3.2 We previously reviewed this market for the Hull Area in 2019:<sup>49</sup>
- a) we found that KCOM had SMP in the market for CI Access services;
  - b) we found that KCOM did not have SMP for retail CI services or any TI services and so these markets were deregulated; and
  - c) we did not identify inter-exchange connectivity services as a separate market.
- 3.3 We propose to find the same market definition for CI Access services in the 2021-2026 review period. This market is now called the LL Access market.
- 3.4 We consider KCOM has SMP in the LL Access market.

### LL Access market at all bandwidths

#### Product market definition

- 3.5 The LL Access market covers wholesale leased lines access services that do not aggregate traffic.<sup>50</sup> We propose to conclude on product market definition for LL Access as follows:
- a) we propose a single market for LL Access at all bandwidths, which includes all wholesale fibre-based Ethernet and WDM services;
  - b) we propose to include dark fibre used to supply or self-supply LL Access in the product market;
  - c) we propose to exclude business-grade connectivity services provided over Ethernet in the first mile (EFM), as well as broadband (symmetric and asymmetric), from the product market; and
  - d) we propose that mobile backhaul is considered part of the same market.
- 3.6 Our view is that the same product market definition that was determined in 2019 BCMR Statement remains appropriate for the current review period.

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<sup>49</sup> 2019 BCMR Statement, Chapter 9.

<sup>50</sup> 2019 PIMR and BCMR Statement, [Annex 6](#), paragraph A6.48.

- 3.7 The reasons that support this product market definition were outlined in the 2019 BCMR Statement:<sup>51</sup>
- We considered a single market definition should apply to all bandwidths because the physical product is similar and suppliers can easily switch between different bandwidths, without incurring significant costs or risks, once connected to a customer.
  - We also considered a dark fibre provider is a close supply substitute to providers of active LL Access, which means that dark fibre should be in the same product market as active LL Access. The main dark fibre providers tend to supply both dark fibre and active services and should be able to provide active LL Access services sufficiently quickly and at minimal cost in the event of a SSNIP.
  - We did not consider EFM and asymmetric broadband as part of the same market as LL Access due to the lower reliability and/or speed of such lines. It is unlikely that LL Access customers would be willing to take-up such services in the event of a SSNIP.
  - We considered mobile backhaul services should be included within the same market. Although there are some differences between purchasers of mobile backhaul and enterprise customers<sup>52</sup>, in both cases competition is determined by the presence of rival networks near to the customer site. On that basis, competitive conditions at particular locations are largely the same whether the end customer is a mobile network operator or an enterprise customer.
- 3.8 We consider that the same market characteristics that were outlined previously continue to apply to the Hull Area.<sup>53</sup> We have not seen any evidence to suggest a different product market definition for LL Access would be appropriate for the current review period.

## Geographic Market Definition

- 3.9 As in previous market reviews, we define the Hull Area as a distinct geographic market. KCOM is the telecoms provider with the most extensive coverage and greatest installed customer base in the Hull Area, indicating a clear difference in competitive conditions from the rest of the UK.
- 3.10 We propose to retain the boundaries of the Hull Area as delineated in our other market reviews.

## SMP Analysis

- 3.11 We propose to find that KCOM has SMP in the market for LL Access at all bandwidths in the Hull Area, and we do not expect KCOM's position in this market to change over the course of the review period.

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<sup>51</sup> 2019 BCMR Statement, Chapter 4.

<sup>52</sup> For example, business offices that require dedicated uncontended internet connectivity.

<sup>53</sup> We note that this approach was also followed in the 2020 WFTMR Consultation.

### KCOM ubiquitous infrastructure

- 3.12 KCOM has ubiquitous infrastructure across the Hull Area that means it can supply LL Access to almost any site in the Hull Area relatively quickly and without incurring substantial costs.
- 3.13 We do not consider that other telecoms providers have the ability or incentive to duplicate the scale of KCOM's network infrastructure in the Hull Area. The costs of developing such an extensive network infrastructure would be very significant and the small number of potential customers in this market is likely to make it unviable in contrast to the rest of the UK. KCOM's almost complete share of the retail fixed broadband market also makes it more difficult for alternative networks to use an existing customer base to underpin investments.

### Limited alternative options

- 3.14 Most business sites have limited alternative options for LL Access. For example, the average number of alternative networks within 50m and 100m of businesses within the Hull Area is 0.22 and 0.49 respectively.<sup>54</sup> This is too low for effective competition. The lack of alternative networks means that purchasers of LL Access in the Hull Area have no countervailing buying power when purchasing LL Access.
- 3.15 Our discussions with stakeholders have revealed no plans by alternative providers that are expected to significantly change the level of competition for LL Access in the review period. As outlined above in paragraph 1.6, CityFibre does not have plans to further expand its networks in the Hull Area.<sup>55</sup> MS3 have a plan to expand its network<sup>56</sup>, but we consider its plans are currently too small and uncertain to have any significant effect on competition in this market.
- 3.16 Some communication providers have noted that there can be limited alternative options to KCOM when purchasing LL Access. [3] indicated that it has found no alternative supplier to KCOM for its requirements and Connexin has suggested that the companies that do use KCOM wholesale products would not use them if they had any other choice.<sup>57</sup>

### Market share

- 3.17 The 2019 BCMR Statement showed KCOM has a high share (60%-70%) [3] in the market for LL Access at all bandwidths.<sup>58</sup>
- 3.18 We consider that market conditions remain broadly the same and KCOM is likely to have a market share consistent with SMP. Information gathered from KCOM that shows the number of all wholesale leased lines access services sold by KCOM has reduced by 5-10%

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<sup>54</sup> 2019 BCMR Statement, Table 9.2.

<sup>55</sup> CityFibre's explanatory note to its 1<sup>st</sup> RFI response.

<sup>56</sup> MS3 plan to increase the number of premises that its network passes to approximately 13% across the Hull Area by June 2021. MS3's 1<sup>st</sup> RFI response.

<sup>57</sup> Meeting between Ofcom and [3], 27 February 2020; meeting between Ofcom and Connexin, 7 November 2020.

<sup>58</sup> 2019 BCMR Statement, Table 9.1. The data used was from 2017.

([<]) from Q4 2017/18 to Q2 2019/20.<sup>59</sup> We do not consider such a decrease is likely to have resulted in any significant change to the existence of KCOM's SMP.

- 3.19 We also consider that the overall number of wholesale leased lines access services may have reduced as migration from TI to CI leased lines would offer the opportunity to consolidate overall bandwidth requirements onto a smaller number of circuits. Any consolidation of this type would reduce the likelihood that a reduction in wholesale leased lines access services sold by KCOM corresponded to an equivalent decrease in its market share of the LL Access market.

### Leased line access services markets deregulated in the 2019 BCMR Statement

- 3.20 Our previous review found that KCOM did not have SMP for retail CI services or any TI services and so these markets were deregulated.<sup>60</sup> We have monitored the developments of these markets since then and found that:
- a) We do not consider that KCOM has SMP for retail CI services. KCOM's provision of all wholesale CI services has increased in absolute terms over the last two years, but the number of retail CI services has remained relatively steady.<sup>61</sup>
  - b) We also do not consider that KCOM has SMP for TI services. Wholesale TI lines have continued to decrease over the last 2 years.<sup>62</sup> Falling numbers of TI services are likely to drive increased unit costs meaning the market for CI services will increasingly constrain the market for low bandwidth TI services.<sup>63</sup>
- 3.21 This evidence appears consistent with our 2019 assessment that KCOM is unlikely to have SMP in retail CI services or TI services.

## Consultation questions

Question 3.1: Do you agree with our proposed market definition of the LL Access market? Please set out your reasons and supporting evidence for your response.

Question 3.2: Do you agree with our proposal that KCOM holds SMP in the supply of LL Access in the Hull Area? Please set out your reasons and supporting evidence for your response.

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<sup>59</sup> KCOM's 1<sup>st</sup> RFI response. The reference to all wholesale leased lines includes all CI and TI services.

<sup>60</sup> 2019 BCMR Statement, Chapter 9.

<sup>61</sup> KCOM 1<sup>st</sup> RFI response.

<sup>62</sup> KCOM 1<sup>st</sup> RFI response.

<sup>63</sup> 2019 BCMR Statement, paragraph 9.97.

## 4. Wholesale broadband access

- 4.1 Wholesale broadband access (WBA) sits between retail broadband services (i.e. the services that end consumers buy), and the upstream WLA market (which relates to the physical connections to consumers' premises).
- 4.2 We have previously found that KCOM has SMP in this market, and imposed a number of remedies.<sup>64</sup>
- 4.3 We provisionally conclude that the product market definition adopted in the 2018 WLA/WBA Statement - wholesale broadband access services provided at a fixed location<sup>65</sup> - remains an appropriate frame of reference,<sup>66</sup> and that the relevant geographic market<sup>67</sup> is the Hull Area. We provisionally conclude that this market is not suitable for ex-ante regulation, as discussed below.

### Three criteria test for the WBA in the Hull Area

- 4.4 The 2014 EC Recommendation sets out those product and service markets which, at a European level, the Commission has identified as being susceptible to *ex ante* regulation. These markets are identified on the basis of the cumulative application of the three criteria test.
- 4.5 Recital 20 of the 2014 EC Recommendation explains that "For the markets the Commission has identified as being susceptible to *ex ante* regulation, a national regulatory authority may still consider it appropriate, on the basis of specific national circumstances, to conduct its own three criteria test. A national regulatory authority may conclude that the three criteria test is or is not met in the national circumstances. If the three criteria test is not met for a specific market listed in the Recommendation, the NRA should not impose regulatory obligations on that market".
- 4.6 WBA corresponds to Market 3b in the Commission's Recommendation. Given developments in the market, we consider it appropriate to conduct a three criteria test on the WBA market in the Hull Area.
- 4.7 We note that the three criteria test is cumulative, and that all three criteria need to be satisfied for a market to be susceptible to regulation. Therefore, if any one of the criteria is not met, the market is no longer susceptible to regulation.

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<sup>64</sup> 2018 WLA/WBA Statement, paragraph 3.131.

<sup>65</sup> Where wholesale broadband access services comprise the provision of asymmetric broadband access and any backhaul as necessary to allow interconnection with other telecoms providers, which provides an always-on capability and allows both voice and data services to be used simultaneously. See 2018 WLA/WBA Statement, paragraph 3.106.

<sup>66</sup> We review the constraints that operate at the retail level (which are the relevant constraints for the definition of the product market for WBA) in paragraphs 2.7 to 2.13 as part of our assessment of the relevant product market for WLA. As set out there, we have not found any material change in the constraints likely to operate at the retail level.

<sup>67</sup> For the reasons given in paragraphs 2.15 to 2.17, we consider the Hull Area is the appropriate geographic market in which to apply the three criteria test.

## Presence of high and non-transitory barriers to entry

- 4.8 Purchasing a WLA product involves interconnecting with KCOM's network. Once this has been done, a broadband provider can offer a retail service to consumers, effectively self-supplying WBA services, and can also offer WBA services to other retailers. Therefore, if the barriers to take-up of WLA are reduced, the barriers to entry into the WBA market are reduced. Under a modified greenfield approach, the downstream market should only be subject to *ex ante* regulation if competition issues remain, despite the presence of regulation in the upstream market.
- 4.9 Potential WLA entry based on using KCOM's copper network via LLU required a significant investment, requiring investment in 14 exchanges. Given this significant sunk cost, and absent WLA-based entry, there remained high barriers to entry into the WBA market.
- 4.10 However, since our last market review, KCOM now offers a fibre local access product underpinned by WLA regulation. It has also now completed its full-fibre network throughout the Hull Area. It is therefore possible for a potential entrant to supply downstream services throughout the Hull Area based on this.
- 4.11 Further, there is reasonable evidence to suggest that providers ([&]) consider that the viability of purchasing WLA products has increased, and that they would seek to enter using WLA products (see Volume 3, paragraphs 1.16 to 1.17). We consider that KCOM's fibre network provides a realistic opportunity for small telecoms providers to compete effectively in retail broadband services using a WLA product, unlike services based on the legacy copper network, as the minimum scale for profitable entry based on using WLA is reduced compared to a copper network.
- 4.12 Accordingly, given the introduction of a fibre WLA product, and the completion of KCOM's full-fibre roll-out, and based on the discussions we have had with stakeholders<sup>68</sup> we provisionally consider that there are no longer high and non-transitory barriers to entry into the WBA market.
- 4.13 It follows that there is no need to consider the other two criteria in the three criteria test.<sup>69</sup>

## Conclusion

- 4.14 It follows from the above analysis that the WBA market in the Hull Area does not satisfy the three criteria test, and, therefore, is not suitable for ex-ante regulation. Consequently, we propose to remove all existing regulatory obligations from the WBA market in the Hull Area.

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<sup>68</sup> We outline these discussions in paragraph 1.16 of Volume 3.

<sup>69</sup> These criteria are "a market structure which does not tend towards effective competition within the relevant time horizon" and "the insufficiency of competition law alone to adequately address the market failure(s) concerned".

- 4.15 We do not consider that transitional arrangements are necessary. KCOM's WBA product is not currently purchased by any provider,<sup>70</sup> which limits the impact of removing the WBA remedy on competition in the Hull Area.

### Consultation question

Question 4.1: Do you agree with our proposal not to regulate the WBA market in the Hull Area on the basis that the increased viability of use of KCOM's WLA FTTP product reduces the barriers to entry into the WBA market? Please set out your reasons and supporting evidence for your response.

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<sup>70</sup> KCOM's fibre WBA product (Wholesale FibreLine Access – WFLA) is not currently purchased by any provider – retail broadband services provided over KCOM's network by other telecoms providers use white label retail-minus products.

## 5. Fixed voice services

### Overview of the fixed voice markets

- 5.1 Wholesale fixed analogue exchange lines (WFAEL) are standard fixed lines used to provide fixed voice services to residential and business consumers, as part of dual play (i.e. broadband and landline voice service) or standalone voice-only services, and account for the majority of fixed call traffic in the Hull Area.
- 5.2 ISDN (Integrated Services Digital Network) is a digital exchange line service that supports telephony and some data services. ISDN30 supports up to thirty voice or narrowband data channels and is primarily used by larger businesses with multiple lines and/or sites, for example call centres. ISDN2 supports two voice or narrowband data channels (which may be used for fax machines, for example).
- 5.3 In order for voice calls to be made on products using a fixed analogue exchange line (FAEL), ISDN2 line or ISDN30 line, calls need to be originated on KCOM's copper voice network. This service is known as call origination. The Wholesale Call Origination (WCO) market comprises the wholesale origination of calls over FAEL, ISDN2 and ISDN30 lines. This includes both calls that KCOM originates for its own customers downstream and calls originated for other telecoms providers that make use of KCOM's wholesale FAEL, ISDN2 and ISDN30 access services to supply voice services.

### Market definition for WFAEL in the Hull Area

#### Product market

- 5.4 In the 2017 NMR Statement we concluded that the WFAEL product market comprised copper, cable and ATA enabled FTTP connections.<sup>71</sup> We concluded that VoIP services provided over fixed broadband (both OTT<sup>72</sup> and managed VoIP services) would be an insufficient indirect constraint on fixed analogue exchange lines (FAEL) that provide fixed telephone services during that market review period.<sup>73</sup>
- 5.5 VoIP services were excluded because broadband products would typically bundle a FAEL (which provides a fixed phone service) with broadband. As a result, it would not have been possible for customers to cease purchasing a FAEL, without also giving up their broadband service (which is relied upon to use a VoIP service).<sup>74</sup> We noted that the development of

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<sup>71</sup> The market definition assessment in the 2017 NMR Statement stated that the situation in the Hull Area was similar to the rest of the UK.

<sup>72</sup> Over-the-top (OTT) VoIP services are voice services provided 'over-the-top' of an existing data network connection such as a fixed or wireless broadband connection.

<sup>73</sup> 2017 NMR Statement, paragraphs 4.9 to 4.67.

<sup>74</sup> Where providers use LLU to supply broadband services, the MPF product will include both a broadband and a voice facility. Similarly, where providers use Openreach's SMPF or GEA services to supply broadband services, they need a copper bearer in the form of an MPF or WLR line (which will include a voice facility) in order for the broadband service to



mass-market VoIP products that are attractive to residential landline users and suitable wholesale broadband products (which did not require the purchase of a FAEL) would be key enablers of a switch to broadband-only lines by consumers.

- 5.6 The number of fixed analogue voice lines is stable, at around 169,000 lines at the end 2018/19 (a small decline on the previous year).<sup>75</sup> Furthermore, KCOM has stated that it does not have any plans to close its PSTN or withdraw its copper network in the forthcoming market review period.<sup>76</sup> While this is the case, we expect little change in terms of the substitutability of other products and that the 2017 NMR Statement will remain an appropriate frame of reference.
- 5.7 In the longer term it is possible that substitution between fixed and mobile calls or between fixed calls and OTT VoIP calls will increase. This is because telecoms providers can now use KCOM's data-only WFLLA product to provide fibre broadband services to all premises in the Hull Area without the need to purchase a FAEL.<sup>77</sup> The availability of KCOM's data-only WLA service increases the likelihood of broadband-only packages being made available to customers from other telecoms providers. This may lead to a greater propensity for consumers to give up their analogue fixed line, which may increase the propensity for such consumers to view mobile and/or OTT VoIP as alternatives to fixed lines for voice calls.
- 5.8 However, it is difficult to predict in advance precisely how substitution patterns will be affected by these developments. Given this uncertainty, we consider that the product market as defined in the 2017 NMR Statement is an appropriate frame of reference to assess whether WFAEL in the Hull Area still meets the three criteria test and should be subject to *ex ante* regulation.

## Geographic market

- 5.9 We consider that the Hull Area is a distinct geographic market from the rest of the UK. KCOM has a market share of nearly 100% for the supply of WFAEL in the Hull Area, in which BT is absent. We therefore consider that the competitive conditions are not homogenous between the Hull Area and the rest of the UK. Furthermore, we do not consider that there are any material differences in competitive conditions within the Hull Area.

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function. Consequently, the majority of the products available in the retail market for broadband in the rest of the UK were (and currently are) either dual or triple play products and broadband only products are relatively rare.

<sup>75</sup> According to KCOM's RFS 2018/19, there was a 3% decline in overall WFAEL volumes (173,549 in 2017/18 to 168,897 in 2018/19).

<sup>76</sup> KCOM has explained that it does not currently hold plans for the switch-off of its copper network. See Annex 6, paragraph A6.29 onwards. Furthermore, it has highlighted that it does not currently plan to withdraw its copper-services (including the provision of FAEL services).

<sup>77</sup> KCOM's Wholesale FibreLine Local Access Price List indicates that a 'data online end user' can purchase a WFLLA product without KLR, while a 'transition end user' would need to still purchase KLR in conjunction with WFLLA.

## Three criteria test for WFAEL

5.10 The WFAEL market is not listed in the 2014 EC Recommendation as a market in which *ex ante* regulation may be warranted.<sup>78</sup> Where a market is not on the list of markets in the 2014 EC Recommendation, National Regulatory Authorities (NRAs) must apply the three criteria test to identify markets other than those listed. In the 2017 NMR Statement, we considered the three criteria test for WFAEL and found that these three criteria were satisfied. As part of this review, we have assessed whether this continues to be the case.

### Presence of high and non-transitory barriers to entry

5.11 As set out above in relation to the product market definition, telecoms providers can now use KCOM's data-only WLA product to provide fibre broadband services to all premises in the Hull Area without the need to purchase a FAEL. Telecoms providers can use the WLA broadband connection to supply a voice service to consumers using managed VoIP, which means it will no longer be necessary to purchase a FAEL from KCOM in order to provide dual play services (and therefore fixed voice services) to all residential consumers in the Hull Area.

5.12 Furthermore, as already noted in Volume 3, Section 2 we are proposing measures relating to KCOM's Reference Offer that will improve the existing WLA access arrangements, which we consider will facilitate the use of KCOM's network by access seekers. We consider that this will increase the likelihood that telecoms providers will be able to provide competing dual-play services in the Hull during the forthcoming review period. Consistent with the modified greenfield<sup>79</sup> approach we adopt, a downstream market should be only be subject to *ex ante* regulation if competition issues remain, despite the presence of regulation on the upstream market.

5.13 We note that KCOM's current WLA product is unlikely to be suitable for providing voice services to voice-only customers, given that the cheapest monthly rental for a data-only WLA product (the FibreLine LA 30/15 at £15.59)<sup>80</sup> is currently more expensive than KCOM's cheapest voice-only retail product (£11.99).<sup>81</sup> However, should demand arise for a suitable WLA access product to support voice only services, we would expect KCOM to consider that request as part of its obligation to provide fair and reasonable access in the WLA market as set out in our proposed SMP condition requiring WLA network access on reasonable request (see Volume 3 paragraphs 2.25 to 2.29).

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<sup>78</sup> Note that retail access to the public telephone network at a fixed location for residential and non-residential customers was previously identified as a market susceptible to *ex ante* regulation in the 2007 EC Recommendation, but not in the 2014 EC Recommendation.

<sup>79</sup> The modified greenfield approach requires us to assess whether markets are effectively competitive from a forward-looking perspective in the absence of any regulation that would result from a finding of SMP. However, it remains appropriate to take into account *ex ante* regulation arising from SMP findings in markets either upstream from, or horizontally related to, the services of interest.

<sup>80</sup> KCOM's Wholesale FibreLine Local Access Price List [accessed 8 July 2020].

<sup>81</sup> See the price of standalone phone services as listed on [KCOM's website](#) [accessed 3 July 2020].

- 5.14 Given that we consider the WFAEL market will become contestable during the review period, our provisional view is that there will no longer be high and non-transitory barriers to market entry. It follows that there is no need to consider the other two criteria in the three criteria test.<sup>82</sup>

### Conclusion

- 5.15 It follows from the above analysis that WFAEL in the Hull Area does not satisfy the three criteria test, and, therefore, is not suitable for ex-ante regulation. Consequently, we propose to remove all existing regulatory obligations from the WFAEL market in the Hull Area. However, we do propose to maintain aspects of the existing regulation for a transitional period of 12 months (see Volume 3, Section 5 for more information).

## Wholesale ISDN2 and Wholesale ISDN30

### Market definition for wholesale ISDN2 and wholesale ISDN30 in the Hull Area

#### Product market

- 5.16 In our 2017 NMR Statement, we found that wholesale ISDN2 exchange line services and wholesale ISDN30 exchange line services were each in separate product markets. We also found that the markets for wholesale ISDN2 exchange line services and wholesale ISDN30 exchange line services did not include alternatives such as IP-based services, despite these IP-based services typically offering the same or better functionality. We found that the lack of substitution from ISDN to IP-based services in response to a SSNIP was in large part due to the high migration costs that many firms would face in moving from ISDN services to more modern alternatives.<sup>83</sup> Nevertheless, we considered that IP-based services were likely to increasingly provide some level of competitive constraint in the future, particularly for new ISDN line connections.
- 5.17 As noted above in relation to WFAEL, KCOM has not stated any plans to close its PSTN or withdraw its provision of ISDN services in the forthcoming market review period.<sup>84</sup> ISDN is an aging technology and is generally declining in use both in the Hull Area and in the rest of the UK<sup>85</sup>. Given that there is a wider shift away from the use of ISDN services by the industry at large, it is possible that ISDN customers' propensity to switch to IP-based alternatives in response to a SSNIP will increase. However it is difficult to say in advance if

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<sup>82</sup> These criteria are "a market structure which does not tend towards effective competition within the relevant time horizon" and "The insufficiency of competition law alone to adequately address the market failure(s) concerned".

<sup>83</sup> 2017 NMR Statement, paragraphs 5.20 to 5.44 and 5.92 to 5.112.

<sup>84</sup> KCOM has explained that it does not currently hold plans for the switch-off of its copper network. See Annex 6, paragraph A6.29 onwards. Furthermore, has highlighted that it does not currently have plans for the withdrawal of its copper-services. This means that does not plan to withdraw its provision of ISDN services. KCOM's 1st RFI response.

<sup>85</sup> A comparison of [BT's Regulatory Financial Statements](#) indicate that volumes for ISDN2 and ISDN30 have been in steady decline since at least 2016/17. As outlined above in the Figure 1.6, ISDN2 line volumes have declined by 13% and ISDN30 channel volumes have declined by 11% [both accessed 8 July 2020].

there will be a sufficient increase in substitutability to widen the relevant market to include IP services.

- 5.18 Given this, we consider that the market definitions set out in the 2017 NMR Statement are an appropriate frame of reference to assess whether the markets for wholesale ISDN2 exchange line services and wholesale ISDN30 exchange line services in the Hull Area continue to meet the three criteria test and should be subject to *ex ante* regulation.

### Geographic market

- 5.19 We consider that the Hull Area is distinct from the rest of the UK. KCOM has a market share of nearly 100% for the supply of wholesale ISDN2 or ISDN30 exchange lines services in the Hull Area, and BT is not present in the Hull Area. We also do not consider that there are any material differences in competitive conditions within the Hull Area.

### The three criteria test and deregulation of wholesale ISDN2/30 exchange line products

- 5.20 As noted above, where a market is not on the list of markets in the 2014 EC Recommendation, NRAs must apply the three criteria test to identify markets other than those listed.
- 5.21 The wholesale ISDN2 exchange line services and wholesale ISDN30 exchange line services markets are not listed in the 2014 EC Recommendation as markets in which *ex ante* regulation may be warranted.<sup>86</sup> In the 2017 NMR Statement, we considered the three criteria test for the wholesale ISDN2 exchange line services and wholesale ISDN30 exchange line services markets and found that these three criteria were satisfied. As part of this review, we have assessed whether this continues to be the case.
- 5.22 We have also had regard to our statutory duties, which include an obligation to carry out our functions with a view to securing that regulation does not involve the imposition or maintenance of regulatory burdens that are unnecessary.<sup>87</sup>

### The insufficiency of competition law alone to adequately address the market failure(s) concerned

- 5.23 The markets for wholesale ISDN2 exchange line services and wholesale ISDN30 exchange line services in the Hull Area are small and are declining, which limits the number of customers that are potentially affected and limits the scope of any competition concern. Current ISDN use amounts to under 2,000 ISDN2 lines and under 7,000 ISDN30 channels (a maximum of c. 1,200 ISDN30 lines), with indications that ISDN use is in decline.<sup>88</sup>

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<sup>86</sup> Note that retail access to the public telephone network at a fixed location for residential and non-residential customers was previously identified as a market susceptible to *ex ante* regulation in the 2007 EC Recommendation, but not in the 2014 EC Recommendation.

<sup>87</sup> Section 6 of the Act.

<sup>88</sup> KCOM's 1<sup>st</sup> RFI response.

- 5.24 Furthermore, in the 2017 NMR Statement we recognised that competition concerns were limited to existing users of ISDN2 and ISDN30, as new users did not face migration costs and were able to substitute to more modern alternatives based on IP. Consequently, current regulation only applies to ISDN exchange lines which were purchased or ordered before December 2018.<sup>89</sup> We estimate that under 15 ISDN exchange lines<sup>90</sup> are protected by our existing *ex ante* ISDN2/30 regulation. The impact of the existing *ex-ante* regulation on the market is therefore likely to be limited.
- 5.25 Given this, we consider that the need for frequent and timely intervention in these markets is no longer indispensable and we propose that it is not necessary, in the specific circumstances of wholesale ISDN2 exchange line services and wholesale ISDN30 exchange line services in the Hull Area, to have SMP regulation in addition to competition law. It follows that there is no need to consider the other two criteria in the three criteria test.<sup>91</sup>

## Conclusion

- 5.26 It follows from the above analysis that the wholesale ISDN2 exchange line services and wholesale ISDN30 exchange line services markets in the Hull Area do not satisfy the three criteria test, and, therefore, are not suitable for *ex-ante* regulation. Consequently, we propose to remove all existing regulatory obligations from the wholesale ISDN2 exchange line services and wholesale ISDN30 exchange line services markets in the Hull Area. However, we propose to maintain aspects of the existing regulation for a transitional period of 12 months (see Volume 3, Section 5 for more information).

## WCO

### Market definition

#### Product market

- 5.27 In the 2017 NMR Statement, we concluded that the WCO product market contained voice calls originated over WFAEL (which includes lines using WLR, MPF, Cable and FTTP with an analogue telephone adaptor (ATA)), as well as calls originated over ISDN lines.
- 5.28 In previous reviews we found that in response to a small but significant change in the price of fixed calls, consumers were not willing to substitute in sufficient numbers to

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<sup>89</sup> In the 2017 NMR Statement we observed that there was a growing and significant indirect constraint from IP-based alternatives, which would be likely to limit the extent of KCOM's market power in wholesale ISDN markets. As a result, we tailored our remedies to remove most regulation for new ISDN lines and instead focus *ex ante* regulation on existing ISDN lines only. 2017 NMR Statement, paragraphs 7.94 to 7.98.

<sup>90</sup> These are estimates based on the number of wholesale ISDN exchange lines sold by KCOM in Q2 2018/19. KCOM's 1<sup>st</sup> RFI response.

<sup>91</sup> These criteria are "the presence of high and non-transitory barriers to entry" and "a market structure which does not tend towards effective competition within the relevant time horizon".

alternatives, such as mobile or VoIP services provided over fixed broadband. Consequently, we defined narrow product markets that exclude these alternatives.<sup>92</sup>

- 5.29 As noted already above, WCO volumes in the Hull Area been in decline. There are signs that use of alternative methods of communication has continued to grow throughout the UK.<sup>93</sup> The proportion of households that have a mobile, but no landline, increased from 18% in 2017 to 22% in 2020.<sup>94</sup> The use of OTT voice services has also been increasing over the last few years, with the percentage of people that use OTT voice services growing from 55% in 2017 to 66% in 2020.<sup>95</sup>
- 5.30 In the longer term, it remains possible that substitution between fixed and mobile calls or between fixed calls and OTT calls will increase. As already noted above in relation to the WFAEL product market, the availability of broadband-only services in the Hull Area by other telecoms providers is now more likely, due to the availability of KCOM's data-only WFLLA service as well as our proposals (as set out in Volume 3, Section 2) relating to KCOM's WLA Reference Offer which we consider will improve the existing WLA access arrangements. The availability of broadband-only services may lead to a greater propensity for consumers to give up their analogue fixed line, which may increase the propensity for such consumers to view mobile and/or OTT VoIP as alternatives to calls originated over fixed lines. However, it is difficult to predict in advance precisely how substitution patterns will be affected.
- 5.31 Given this, we consider that the market definition that we set out in the 2017 NMR Statement is an appropriate frame of reference to consider whether the WCO market still meets the three criteria test and should be subject to *ex ante* regulation.<sup>96</sup>

### Geographic market

- 5.32 We consider our assessment of geographic market definitions for WFAEL, ISDN2 and IDSDN30 are also relevant for the WCO market. We propose that the Hull Area is distinct from the rest of the UK due to KCOM facing little competition in the supply of WFAEL, ISDN2 or ISDN30 services over which calls are originated by KCOM, and BT is not present in the Hull Area. We also do not consider that there are any material differences in competitive conditions within the Hull Area.

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<sup>92</sup> 2017 NMR Statement, paragraphs 4.143 to 4.148.

<sup>93</sup> We look at trends in the UK generally to consider behaviours in the Hull Area. We expect that the behaviour of consumers in the Hull Area in regard to mobile and OTT VoIP use is broadly similar to those in the UK as a whole.

<sup>94</sup> 'Mobile only' responses to Tech Tracker Question QC1: "Is there a landline phone in your home that can be used to make and receive calls?"). [Ofcom Technology Tracker 2017 H1](#), Table 21. [Ofcom Technology Tracker 2020](#), Table 27.

<sup>95</sup> 'Yes' responses to Tech Tracker Question QE30: "Have you or anyone in your household ever used one of these services to make voice calls using the internet at home?" ("these services" being explained as services such as Skype Facetime, WhatsApp and Facebook Messenger). [Ofcom Technology Tracker 2017 H1](#), Table 103. [Ofcom Technology Tracker 2020](#), Table 76.

<sup>96</sup> Where a narrower product market does not pass the three criteria test, a wider product market definition that included alternative services would also not pass the three criteria test.

## Three criteria test for WCO

### Presence of high and non-transitory barriers to entry

- 5.33 As already noted above in relation to the application of the three criteria test in the WFAEL market, KCOM's provision of its data-only WFLLA service means it is no longer necessary to use a FAEL to provide a fixed voice service in the Hull Area. As other telecoms providers can provide a managed VoIP service over broadband, telecoms providers will be able to originate the calls themselves, instead of having to rely on KCOM to originate calls on its voice network.
- 5.34 Consistent with the modified greenfield<sup>97</sup> approach, we consequently consider that alternative providers of fixed voice services are unlikely to face high and non-transitory barriers to entry in the supply of WCO in the Hull Area by the end of the period of this review.
- 5.35 As already noted above in relation to WFAEL, we acknowledge that the use KCOM's WFLLA product is unlikely to be suitable for providing voice services to voice-only customers, given the wholesale price exceeds the price of KCOM's retail voice-only product.<sup>98</sup> However, should demand arise for a suitable WLA access product to support voice-only services, we would expect KCOM to consider that request as part of its obligation to provide fair and reasonable access in the WLA market as set out in our proposed SMP condition requiring WLA network access on reasonable request (see Volume 3 paragraphs 2.26 to 2.30).
- 5.36 Given that we consider the WCO market will become contestable during the review period, our provisional view is that there will no longer be high and non-transitory barriers to market entry. It follows that there is no need to consider the other two criteria in the three criteria test.<sup>99</sup>

### Conclusion

- 5.37 It follows from the above analysis that the WCO market in the Hull Area does not satisfy the three criteria test, and, therefore, is not suitable for ex-ante regulation. Consequently, we propose to remove all existing regulatory obligations from the WCO market in the Hull Area.
- 5.38 We do however, propose to maintain aspects of the existing regulation for a transitional period of 12 months (see Volume 3, Section 5 for more information).

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<sup>97</sup> The modified greenfield approach requires us to assess whether markets are effectively competitive from a forward-looking perspective in the absence of any regulation that would result from a finding of SMP. However, it remains appropriate to take into account *ex ante* regulation arising from SMP findings in markets either upstream from, or horizontally related to, the services of interest.

<sup>98</sup> As already noted above, the cheapest monthly rental for a data-only WLA product (the FibreLine LA 30/15 at £15.59/mth) is more expensive than KCOM's cheapest voice-only retail product (£11.99/mth).

<sup>99</sup> These criteria are "a market structure which does not tend towards effective competition within the relevant time horizon" and "the insufficiency of competition law alone to adequately address the market failure(s) concerned".

## Consultation question

Question 5.1 Do you agree with our proposal not to regulate WFAEL, ISDN2, ISDN30 and WCO markets on the basis that they no longer fulfil the three criteria test set out in the 2014 EC Recommendation? Please set out your reasons and supporting evidence for your response.