

# The evolving business services market and the review of the EC Recommendation on relevant markets

A report for ETNO

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## Executive Summary

The European Commission draft recommendation proposes a new “Market 4 – wholesale high-quality access provided at a fixed location” to replace the existing “Market 6 – terminating segment of leased lines”.<sup>1</sup> The supporting explanatory note puts forward a number of points in relation to this proposal, in particular (from Section 4.2.2.3):

*“...an analysis of the general market conditions and demand side both at retail and wholesale level across the EU suggests that mass-market and business demand differs significantly.”*

Further, the European Commission conclude that:<sup>2</sup>

*“...it appears appropriate, on a forward-looking basis, to define a wholesale market for high-quality access, which includes a wider range of access products necessary to fulfil the needs of business services providers.”*

We assess this proposal in relation to the diverse demand characteristics in the business market, changing technology, services and competition on the supply side and against the objectives, costs and benefits of regulation.

Mass market broadband is becoming more capable as fibre is extended closer to residential and business premises and as 4G is adopted. In conjunction the consumerization of IT, we are seeing growing use of consumer devices and IP applications in the workplace.

Availability of 4G will also provide a degree of redundancy to fixed connectivity, potentially reducing the need for bespoke high quality fixed access service in the business market. Taken together, these developments can be expected to see growing use of mass market services to meet enterprise needs.

However, enterprise requirements are diverse and there will continue to be a distinct market for business connectivity. Whilst no set of criteria perfectly delineate the market for mass-market products from the market for specific business market products susceptible to *ex ante* regulation we consider that a bespoke supply process and dedicated access are two key characteristics which will support a well-defined delineation.

The proposed extension of existing market 6 “terminating segments of leased lines” to the proposed market 4 “wholesale high-quality access provided at a fixed location” is overly broad and should be narrowed. The current market definition of market 6 relating to leased lines better captures the specificity to the business segment.

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<sup>1</sup> European Commission. January 2014. Draft recommendation on relevant markets. <http://ec.europa.eu/digital-agenda/en/news/draft-revised-recommendation-relevant-markets>

<sup>2</sup> [file:///C:/Users/Brian/Downloads/DraftExplanatoryNoteonrelevantmarkets%20\(2\).pdf](file:///C:/Users/Brian/Downloads/DraftExplanatoryNoteonrelevantmarkets%20(2).pdf)

# 1 The diverse and changing communications needs of businesses

Whilst there are segments of the business market where demand differs significantly from the mass-market, there are a range of enterprise demands that are met by mass-market services.

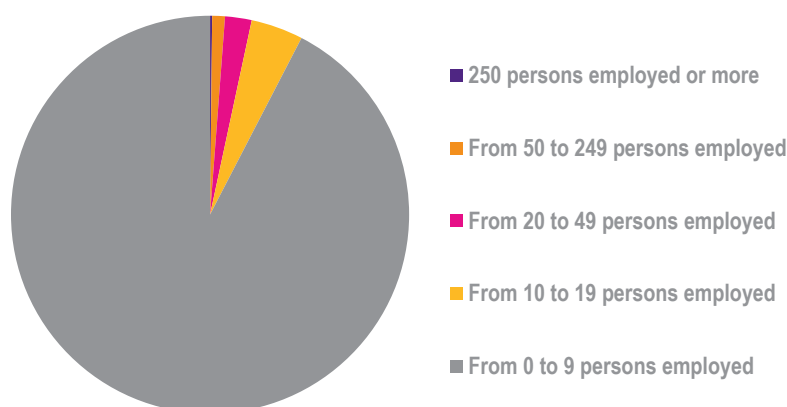
## 1.1 Enterprise diversity

Enterprises are diverse ranging in size from one person to large enterprises, from single site to multisite and to those that are mobile only:

- Size: from small enterprises (<10 employees) to large (>250 employees). In fact the vast majority of enterprises in Europe have less than 10 employees, and of the remaining larger enterprises over half have less than 20 employees (see Figure 1-1).
- Single versus multiple sites. Enterprises may have a single (or few sites) to enterprises such as retailers that have multiple sites, potentially across multiple countries. Multi-site enterprises may choose to purchase their communications needs from a single service provider.
- Mobility: from entirely mobile with no fixed office (tradespeople increasingly operate this way) to multiple offices. Those enterprises that are entirely mobile rely on mass market mobile connectivity.

Figure 1-1

### Number of enterprises



Source: Plum Consulting, Eurostat

## 1.2 Diverse and changing communications needs

Enterprise diversity itself generates diversity of communications needs, whilst other communications specific factors amplify this diversity. Quality of service needs vary from mobile and/or consumer ADSL only to dedicated fibre. We note, however, that fibre faces competition from other technologies

even in the high-capacity dedicated market segment, particularly where very low latency or flexibility in deployment are valued. For example:

- Free space optical<sup>3</sup> or wireless links<sup>4</sup> may be preferred for low latency applications, in particular financial trading.
- Wireless backhaul links may offer a more timely and flexible solution in many locations for mobile small cell deployments.

In relation to cloud services, which businesses as well as consumers are adopting, demands in terms of connectivity are increased but do not necessarily require dedicated high quality links in all circumstances. Cloud services may operate in a synchronisation mode with central and local device copies of files. Files are then accessed locally with changes synchronised via the cloud. This approach does not necessarily require high speed connectivity, but may require a high level of capacity to accommodate the data traffic involved in synchronisation.

Cisco has estimated the connectivity requirements for cloud services (summarised in Table 1-1).<sup>5</sup>

**Table 1-1: Connectivity requirements for cloud services**

	Basic cloud services	Intermediate cloud services	Advanced cloud services
Download	750 kbps	751-2,500 kbps	>2,500 kbps
Upload	250 kbps	251-1,000 kbps	>1,000 kbps
Latency	>160 ms	159-100 ms	<100 ms

Basic cloud service requirements are therefore met by current generation mass-market connectivity whilst mass-market 4G and VDSL or FTTH would meet the requirements of advanced cloud services.

<sup>3</sup> BBC. 4 March 2014. "Laser beam technology to speed up share price data." <http://www.bbc.co.uk/news/business-26430356>

<sup>4</sup> Colt. 14 November 2012. "Colt first to offer both fibre and microwave low latency services between London and Frankfurt." <http://www.colt.net/uk/en/news/colt-first-to-offer-both-fibre-and-microwave-ultra-low-latency-services-en.htm>

<sup>5</sup> Cisco. October 2013. "Cisco Global Cloud Index: Forecast and Methodology, 2012–2017". [http://www.cisco.com/c/en/us/solutions/collateral/service-provider/global-cloud-index-gci/Cloud\\_Index\\_White\\_Paper.html](http://www.cisco.com/c/en/us/solutions/collateral/service-provider/global-cloud-index-gci/Cloud_Index_White_Paper.html)

## 2 How changes in technology and supply are addressing business needs

The June 2013 Plum study for ETNO on relevant markets surveyed changes in technology and the communications market and identified key trends anticipated to have a material impact up to 2020.<sup>6</sup>

Developments since that study was completed reinforce the conclusions, namely: a pivot towards mobile and mobile applications; growing platform competition including copper, fibre, cable and 4G; growth in competition from OTT; and a transition to all-IP networks.<sup>7</sup>

Whilst the broad trends in the market as a whole are relevant also to the business market, here we focus on those changes that are relevant to an assessment of the enterprise market. The same broad conclusion applies, namely that the market is becoming more rather than less competitive.

### 2.1 Consumerization of IT

The consumerization of IT refers to the reorientation of product and service designs around the individual end user. Further, users increasingly bring their own devices to work and expect to be able to use mass market services including over the top (OTT) services. These services are designed to work well over the majority of consumer grade fixed and mobile broadband connections, and utilise compression and specialised codecs<sup>8</sup> to reduce requirements in terms of speed, latency, packet loss etc.

### 2.2 Growing sophistication of mass-market broadband

A key development in the past 5 years is the growing availability and capacity of mass market broadband access. Many enterprises, in particular small business and business with small sites, find that these services meet their needs.

The Digital Agenda for Europe has a goal of universal availability of 30 Mbps by 2020, and progress towards this goal involves extension of fibre close to the premise via a mix of fibre to the premise, cabinet and building; alongside potentially expanded use of much more capable wireless solutions utilising LTE technology and spectrum made available on a harmonised basis across Europe (Figure 2-1 shows the increasing average download speed for Europe). We also note that very high capacity 4G packages (1 petabyte or 1 million gigabytes) are offered by EE in the UK who are targeting markets such as broadcast upload.<sup>9</sup>

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<sup>6</sup> Plum. June 2013. "Relevant Markets in the Telecoms Sector: The Times They are a-Changin".  
[http://www.plumconsulting.co.uk/pdfs/Plum\\_June2013\\_Relevant\\_Markets\\_in\\_the\\_Telecoms\\_Sector\\_-\\_The\\_Times\\_They\\_are\\_a-Changin.pdf](http://www.plumconsulting.co.uk/pdfs/Plum_June2013_Relevant_Markets_in_the_Telecoms_Sector_-_The_Times_They_are_a-Changin.pdf)

<sup>7</sup> Illustrative examples of such market developments include:

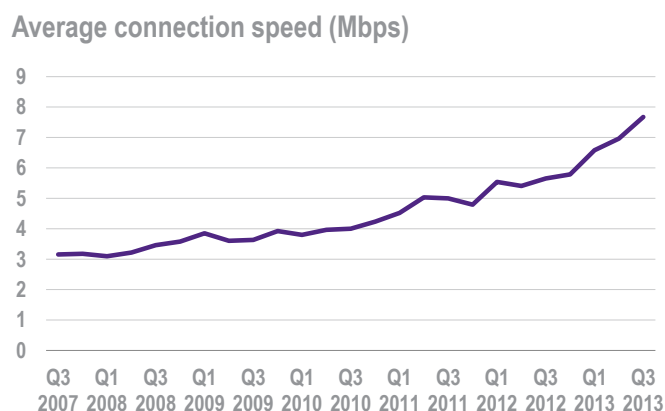
EE - the first network to launch 4G in the UK in October 2012 – reached 70% coverage and adoption by 2 million customers by January 2014, and had a target of 6 million 4G customers by the end of 2014. <https://explore.ee.co.uk/our-company/newsroom/ee-reaches-two-million-4g-customers-as-uptake-accelerates>

The WhatsApp acquisition by Facebook in February 2014 and announced plans to introduce a voice service in 2014.

<sup>8</sup> For example WhatsApp claim that their voice service, expected to launch in 2014, will have a robust codec.  
<http://techcrunch.com/2014/02/25/whatsapps-koum-re-iterates-no-facebook-integration-voice-calls-coming/>

<sup>9</sup> <https://explore.ee.co.uk/our-company/newsroom/ee-unveils-world-s-first-petabyte-mobile-data-bundle-for-business>

Figure 2-1: Average speed for the EU



Source: Plum Consulting, Akamai, Digital Agenda

Whilst a target for upload speeds is not specified as part of the Digital Agenda for Europe, this is an area where perhaps the most progress will be made as technologies capable of meeting the download speed goal typically offer even greater increases in upload speeds compared to ADSL and 3G. For example, VDSL offers upload speeds of over 10 Mbps versus around 1 Mbps for ADSL. Consumer broadband is therefore becoming more symmetric as well as faster. In addition to fibre and fixed wireless links, VDSL is also envisaged to have a significant role in relation to mobile backhaul.<sup>10</sup>

Rapid technological progress in terms of the capacity of fibre used for backhaul and in core and transit networks is also lowering the cost per GB carried, with unlimited mass market packages now common and improving economics of offering low contention ratios. An illustration of the potential of this trend is the speed of 1.4 terabits per second (enough to send 44 uncompressed HD films a second) achieved during a joint test by Alcatel-Lucent and BT over a standard 410 km fibre link.<sup>11</sup>

## 2.3 Transition to all-IP networks and services

Time Division Multiplexing (TDM) leased lines offer low latency (the time information takes to traverse a network) and jitter (variation in the time taken) and support for synchronisation. These features are important for services such as electricity network telemetry and control, mobile backhaul and legacy voice services.

However, “carrier class” Ethernet leased lines offer latency and jitter performance that is comparable with TDM services. Further, with the transition to 4G mobile networks (which are all-IP) and a transition towards all-IP fixed networks (which will be underway before 2020); services generally will be developed with a degree of tolerance for latency and jitter.<sup>12</sup>

<sup>10</sup> [http://www3.alcatel-lucent.com/wps/DocumentStreamerServlet?LMSG\\_CABINET=Docs\\_and\\_Resource\\_Ctr&LMSG\\_CONTENT\\_FILE=White\\_Papers%2FLeveraging\\_VDSL2\\_for\\_Mobile\\_Backhaul\\_SWP.pdf&lu\\_lang\\_code=en\\_WW&REFERRER=](http://www3.alcatel-lucent.com/wps/DocumentStreamerServlet?LMSG_CABINET=Docs_and_Resource_Ctr&LMSG_CONTENT_FILE=White_Papers%2FLeveraging_VDSL2_for_Mobile_Backhaul_SWP.pdf&lu_lang_code=en_WW&REFERRER=)

<sup>11</sup> BBC. 22 January 2014. ‘Fastest ever’ broadband passes speed test.” <http://www.bbc.co.uk/news/technology-25840502>

<sup>12</sup> Whilst a transition to all IP networks is anticipated in Europe the process, from an operator and policy perspective, is under more open and explicit discussion in the US. See for example:

AT&T policy blog. 28 February 2014. “Going all-IP in Florida and Alabama.” <http://www.attpublicpolicy.com/wireless/going-all-ip-in-alabama-florida/>

Increasing reliance of enterprise on apps and mobile devices will also reduce dependence on dedicated fixed access.<sup>13</sup> Further, new collaboration tools aimed at enterprise, such as Google Chromebox video collaboration, are designed to ensure interaction with anyone on any device – and are therefore designed to work with consumer IP networks.<sup>14</sup> This trend can be expected to accelerate and is likely to increase the suitability and adoption of mass market broadband access services by enterprise.

Another example is automatic teller machines (ATMs) which have transitioned from leased line connectivity to mass market fixed and wireless broadband connectivity; whilst point of sale terminals may connect directly via 3G/4G cellular.

## 2.4 Link redundancy

As consumers and businesses adopt mobile devices including smartphones and tablets with data connectivity, Wi-Fi tethering and high-speed low-latency 4G connectivity – they have (if not a standalone solution) a high degree of redundancy should fixed broadband access fail.

Quality of service and repair times may therefore become less important for a significant segment of the enterprise market, allowing mass market broadband to meet day to day needs with mobile as a backup should fixed broadband links fail.

Enterprises may also achieve link redundancy by utilising fixed telecoms and cable based broadband services (where available).

## 2.5 Advances in wireless and free space optical fixed links

In the March 2013 Business connectivity market review final statement Ofcom noted that:<sup>15</sup>

*“From our discussions with MNOs, we were not aware of any firm plans for mobile backhaul capacity at the densest locations in excess of 1Gbit/s (within the timeframe of this review).”*

Paragraph 4.295

Gigabit wireless links are now available<sup>16</sup> and free space optical links offering two gigabit speeds are coming to market, with 10 Gbps systems anticipated by 2015.<sup>17</sup> Wireless and optical links therefore appear capable of substituting for high capacity fibre links in a range of circumstances.

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FCC. 3 March 2014. “Early Progress in Efforts to Learn About the Impact of Technology Transitions.”

<http://www.fcc.gov/blog/early-progress-efforts-learn-about-impact-technology-transitions>

<sup>13</sup> Enterprise apps are a large but less visible part of the apps market. See, for example: Gigaom. February 2014. “Sizing the EU app economy.” <http://eurapp.eu/sites/default/files/Sizing%20the%20EU%20App%20Economy.pdf>

<sup>14</sup> Google. February 2014. <http://googleblog.blogspot.co.uk/2014/02/chromebox-now-for-simpler-and-better.html>

<sup>15</sup> Ofcom. March 2013. “Business connectivity market review - final statement.”

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

<sup>16</sup> For example at <http://www.wifigear.co.uk/bridge-link-kits/bridgewave>

<sup>17</sup> <http://www.anova-tech.com/radio.html>



## 2.5.1 Wireless links

Fixed wireless links are an old technology, however technical progress has increased capacity and opened up greater scope to utilise high frequency bands. Based on field trials Ericsson concluded that higher frequencies could work well in non-line-of-site applications:<sup>18</sup>

*“In the vast amount of dedicated spectrum available above 20 GHz, microwave backhaul is not only capable of providing fiber-like multi-gigabit capacity, but also supports high performance backhaul for small cells, even in locations where there is no direct line of sight.”*

Further, whilst different bands may be utilised in different countries, a number of bands have shown considerable growth and the CEPT has opened up the 71 – 76/81 – 86 GHz and 92 – 95 GHz bands. Wireless links can be expected to play an expanded role in future, particularly for data links to mobile base stations.

Wireless links can be deployed quickly and offer lower latency than fibre for line of site applications (since light travels faster in air than in glass). The Electronic Communications Committee (ECC) reviewed developments in wireless fixed links technology and in the market, and noted in the executive summary that:<sup>19</sup>

*“Developments in the technologies show the new trends in the FS [fixed services] sectors: ranging from higher modulation schemes (up to 1024 levels), adaptive modulation schemes to Hybrid/Ethernet technology equipment, better suited for different Quality of Service (QoS) levels and high capacity links.”*

*These very high capacity links are able to provide a viable alternative to deploying fibre optic especially in rural areas but equally in high density urban areas where there would be severe disruption caused by digging up roads etc. to lay down fibres.”*

Wireless access services are also provided to enterprise, for example, in Ireland.<sup>20</sup>

## 2.5.2 Free space optical and hybrid links

Free space optical technology also offers an alternative to fibre and has been deployed for low latency financial data links.<sup>21</sup> Free space optical link technology and optical/wireless hybrid technology has been developed for mobile backhaul.<sup>22</sup>

*“AOptix Intellimax provides 6x more channel capacity than microwave and 2x the distance of millimeter wave at carrier grade availability. Data is transmitted and received at two Gbps for distances up to 10 kilometers with 5 9s availability, through all weather conditions.”*

<sup>18</sup> Ericsson. February 2013. “Non-line-of-sight microwave backhaul for small cells.” [http://www.ericsson.com/news/130222-non-line-of-sight-microwave-backhaul-for-small-cells\\_244129229\\_c](http://www.ericsson.com/news/130222-non-line-of-sight-microwave-backhaul-for-small-cells_244129229_c)

<sup>19</sup> ECC. March 2012. “Fixed Service in Europe Current use and future trends post 2011.” <http://www.erodocdb.dk/Docs/doc98/official/pdf/ECCRep173.PDF>

<sup>20</sup> [http://www.imaginebusiness.ie/broadband/broadband\\_wireless.php](http://www.imaginebusiness.ie/broadband/broadband_wireless.php)

<sup>21</sup> <http://www.bbc.co.uk/news/business-26430356>

<sup>22</sup> <http://www.aoptix.com/communications/technology>

### 3 Growing competition in the business market

Drawing on Sections 1 and 2 we reach the following conclusions:

- Enterprise connectivity requirements are diverse - ranging from mobile only to dedicated high capacity fixed links.
- Mass market fixed and wireless access are increasingly meeting a growing range of enterprise needs:
  - The vast majority of businesses are small (and large businesses may have small sites). Many of these needs will be met via mass market broadband, particularly as download and upload speeds increase with progress towards meeting the European Digital Agenda targets.
  - Service levels and repair times may become less significant given increasing availability and use of 4G which provides a back-up in the event of fixed broadband downtime (and the sole means of connectivity for a number of enterprises).
  - The consumerization of IT, growth in cloud services and the transition towards all-IP networks will increase the scope to utilise mass market broadband access as applications will increasingly be designed to work across a range of fixed and wireless broadband access and over IP networks.

However, not all enterprise needs will be met by mass market products, even though mass market products are expected to evolve to offer higher speeds and greater symmetry as fibre is extended closer to premises and as 4G is deployed. There will therefore remain a distinct market for dedicated capacity provided on a bespoke basis. In relation to this market we note that:

- In areas of concentrated demand the market for dedicated bespoke capacity may be competitive.
- Technological innovation, particularly in relation to fixed wireless and free space optical links, offers high quality connectivity at Gbps speeds in competition with fibre.
- Multisite and potentially multi-country enterprises may utilise a mixture of mass market and dedicated high capacity inputs, and may purchase these from a single “global” service provider.

These developments imply that overall competition for communications services in the enterprise market is likely to increase out to 2020. Further, they imply that where competition problems are identified they are likely to be addressed by a combination of regulated mass market access products and dedicated bespoke access (existing market 6 terminating segments of leased lines). We consider the question of whether the multi-site enterprise segment requires additional wholesale access products in Section 5.

## 4 Lessons from regulatory experience

Differences in the nature of the enterprise market, in the development of the communication market and in the extent of competition have contributed to differences in the application of regulation to the enterprise market in member states. Some observed differences may also reflect innovations in terms of how the scope of regulation may be limited, for example, with respect to geography.

We briefly illustrate regulatory experience and developments before considering which markets fulfil the economic criteria for being included in the list of relevant markets susceptible to *ex ante* regulation. We then set out what approach should be applied, for example, in relation to geographic sub-markets.

Few countries have distinguished wholesale broadband access between the mass market and the enterprise market, instead relying solely on the existing market 6 in the context of enterprise services *per se* (with mass market regulation also applicable to enterprise use of mass market access services). Exceptions include Austria, France and the Netherlands.

We note that these exceptions may permit a reduction of regulation where distinguishing the competitive conditions between mass and enterprise markets enables regulation to be more narrowly focussed. In Austria competition between mobile and fixed broadband led to removal of cost orientation in relation to the mass market. In the Netherlands a separate business market for fibre to the office has been defined in relation to Market 4, for which cost orientation was proposed by ACM but annulled by the Courts on grounds that KPN's SMP on this market is insufficiently proven.<sup>23</sup>

In France ARCEP propose geographical differentiation of high quality access for copper and fibre in the enterprise market. The geographical boundary of the area subject to price controls (the area with insufficient competition) would be reviewed once a year and the boundary revised based on the extent of development of competition.<sup>24</sup>

In the UK, within the context of market 6, Ofcom have distinguished West, East and Central London (WECLA) distinguished from the rest of the UK for the purposes of deregulating those segments of the market that are competitive.<sup>25</sup> Ofcom noted that other areas might be competitive but that Ofcom did not have the time to analyse these areas in sufficient detail to establish that this was the case.

We note that BEREC considered the relevant market definition for business services in 2011 and did not reach definitive conclusions regarding the existence of a separate high quality market or regarding the scope of the geographic market.<sup>26</sup> Rather the report set out a basis for considering the specific issues in relation to the business market at the national level, either at the market definition or remedies stage.

In conclusion, there is no trend in the EU towards extension of regulation for the business services market, whilst there have been deregulatory steps in some markets, in particular based on geographical segmentation.

<sup>23</sup> Court of first instance. 18 December 2013.

<http://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:CBB:2013:273&keyword=ECLI%3aNL%3aCBB%3a2013%3a273>

<sup>24</sup> ARCEP. February 2014. "Projet de décision portant sur la définition des marchés pertinents de gros des services de capacité (marché 6), sur la désignation d'opérateurs exerçant une influence significative sur ces marchés et sur les obligations imposées à ce titre." [http://arcep.fr/fileadmin/uploads/tx\\_gspublication/2014-02\\_ADM\\_6\\_CP.pdf](http://arcep.fr/fileadmin/uploads/tx_gspublication/2014-02_ADM_6_CP.pdf)

<sup>25</sup> Ofcom. March 2013. "Business connectivity market review - final statement."

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

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[http://www.irg.eu/streaming/BoR%20\(10\)%2046%20Rev1%20BEREC%20report%20on%20market%20definition%20for%20business%20services\\_final.pdf?contentId=547130&field=ATTACHED\\_FILE](http://www.irg.eu/streaming/BoR%20(10)%2046%20Rev1%20BEREC%20report%20on%20market%20definition%20for%20business%20services_final.pdf?contentId=547130&field=ATTACHED_FILE)

## 5 The appropriate scope of regulation in the business market

In the mass-market the European Commission Recommendation on non-discrimination and costing methodologies aims to support investment, innovation and competition by allowing pricing freedom for next generation fibre services, subject to competition from copper, LTE and cable and to non-discrimination requirements. Growth in platform competition and a desire for fibre investment deeper into the network were both considerations leading to the recommendation.

Related arguments apply in relation to the enterprise market, namely that a goal of less not more regulation appears justified given increasing competition and the desire for investment and innovation. Further, the prospects for the extension of infrastructure based competition may be greater than in the mass market with entrants extending fibre networks and innovation and investment in fixed wireless and free space optical technologies.

For example, Virgin Media in the UK (with a cable network covering 48% of premises) has developed its network to offer fibre products to enterprise customers including mobile operators.<sup>27</sup> Unwarranted regulation would discourage developments such as this. Virgin, who offer services based both on their own network and on wholesale access, have cautioned against over-regulation:<sup>28</sup>

*“Even “slightly too low” regulated wholesale prices have the potential to significantly damage infrastructure based competition, leading to artificial incentives in the market, entrenching BT’s position as a wholesale supplier, reducing the prospects of alternative network investment, all of which will result in negative long term outcome for industry and consumers.” Page 5*

There are three ways in which the scope and nature of regulation might be limited to those areas where regulation is strictly necessary through:

- A narrow and well defined list of relevant markets adapted to and supporting the transition to all-IP networks.
- Delineation of those sub-geographical areas or business market segments where infrastructure competition is sufficient.
- Limiting the application of price controls, and where price controls are applied limiting them to one level in the network.

### 5.1 Business service markets in the list of relevant markets

As regards relevant markets in the business market we propose that:

- The status quo that transit is not a market susceptible to *ex ante* regulation be maintained.<sup>29</sup>

<sup>27</sup> <http://www.virginmediabusiness.co.uk/News-and-events/News/News-archives/2011/MBNL/>

<sup>28</sup> Virgin. August 2012. “Virgin Media’s response to Ofcom’s Business Connectivity Market Review and Leased Line Charge Control consultations.” [http://stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/responses/Virgin\\_Media.pdf](http://stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/responses/Virgin_Media.pdf)

<sup>29</sup> The transit market has developed on a competitive basis without *ex ante* regulation. For example, in 2012 BEREC and the OECD noted in relation to the transit market that: “*The market has developed very well so far without any significant regulatory intervention.*” BEREC. June 2012. “An assessment of IP interconnection in the context of net neutrality”. [http://berec.europa.eu/files/document\\_register/2012/8/2012-06-20-%20-%20Session1%20-%20presentation%20by%20the%20NGN%20EWG%20Chair%20-%20IP%20Interconnection%20Wp.pdf](http://berec.europa.eu/files/document_register/2012/8/2012-06-20-%20-%20Session1%20-%20presentation%20by%20the%20NGN%20EWG%20Chair%20-%20IP%20Interconnection%20Wp.pdf)

- The proposal that existing Markets 1 and 2 be removed should be maintained, and is valid in relation to both the mass market and the business market.<sup>30</sup>
- The proposed extension of existing market 6 “terminating segments of leased lines” to the proposed market 4 “wholesale high-quality access provided at a fixed location” is overly broad and should be narrowed. Further, the current market definition relating to leased lines better captures the specificity of the business segment and has not impeded NRAs in particular cases from extending the market to include other products.

Whilst the explanatory memorandum argues for a clear boundary between the mass-market and high-quality access, we consider that high-quality access and the accompanying description is too wide:<sup>31</sup>

*“Other, typically contended and asymmetric wholesale access products offered by a network owner to a wholesale access seeker over copper or hybrid infrastructures, can be regarded by access seekers as substitutes to leased lines, when they display certain advanced quality characteristics at the wholesale level, such as: (i) guaranteed availability and high quality of service in all circumstances including SLAs, 24/7 customer support, short repair times and redundancy, typically found in a services environment geared to the needs of business customers; (ii) high-quality network management, including of backhaul, resulting in upload speeds appropriate for business use and very low contention; and (iii) the possibility to access the network at points which have been defined according to the geographic density and distribution of business rather than mass-market users.”*

*Therefore, it appears appropriate, on a forward-looking basis, to define a wholesale market for high-quality access, which includes a wider range of access products necessary to fulfil the needs of business services providers (and ultimately large retail business customers) and which displays the service characteristics described above.”*

Whilst no set of criteria perfectly delineate the market for mass-market products from the market for specific business market products susceptible to *ex ante* regulation we consider that the following two characteristics are key to an appropriate and well defined delineation:

- A bespoke supply process, often involving network extension and installation versus industrial scale provision of existing lines in the mass-market.
- Dedicated access. Speed and low contention alone may become less defining characteristics as speed and capacity available in the mass market increases.

These criteria assume a clear distinction to mass-market broadband products that, as we have shown in this paper, fulfil many communication needs of the business segment. To adopt an overly wide definition of “high quality” services that includes products that are constrained by mass market broadband such as high-quality bitstream services would lead to undue regulation of such products.

Further we do not support extension of the scope of relevant markets applicable to the business market as necessary or appropriate to support the provision of services to multi-site enterprises for the reasons considered in Figure 5-1.

<sup>30</sup> Consistent with the decline in importance of fixed voice in the mass market with growing competition from mobile, OTT and managed VoIP services; fixed voice is also in decline in the business market. See, for example, the Ofcom Communications Market Report 2013 (page 348). [http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/2013\\_UK\\_CMV.pdf](http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/2013_UK_CMV.pdf)

<sup>31</sup> [file:///C:/Users/Brian/Downloads/DraftExplanatoryNoteonrelevantmarkets%20\(2\).pdf](file:///C:/Users/Brian/Downloads/DraftExplanatoryNoteonrelevantmarkets%20(2).pdf)

### Figure 5-1: Meeting the needs of multisite enterprises

BT has highlighted the communications needs of enterprise customers operating across multiple locations and potentially multiple countries.<sup>32</sup> Competition in this intermediate market depends on access services throughout multiple countries. A similar argument has been put forward by WIK in a study for ECTA.<sup>33</sup> The trend towards virtualisation of wholesale access, and development of wholesale services offering a greater degree of customisation, is helpful in this regard. In their submission one option BT put forward is the introduction of a transnational wholesale business connectivity market (paragraph 127). However, BT also state in paragraph 128 of their submission that:

*“There may, however, be other, potentially less onerous ways of achieving the same outcomes. For example, BEREC could be tasked with issuing guidance on how NRAs should include considerations of a Pan-European retail business services market into their reviews of the relevant upstream wholesale markets, and the Commission could use the Article 7 procedure to review NRAs’ decisions specifically with respect to these issues.”*

Orange France Telecom, who are also a large player in the European enterprise service market, also considered the issue and concluded that technical coordination rather than the establishment of a transnational market for business services was appropriate:<sup>34</sup>

*“There has been some discussion of the establishment of a transnational market for business services. What such products actually need is technical coordination. Obviously, a regulatory relevant market is not relevant when the issue is standardisation.”*

Recently, standardisation work of this type has been undertaken by an industry group<sup>35</sup> and further initiatives of this nature could be undertaken.

In conclusion, the proposed extension of existing market 6 “terminating segments of leased lines” to the proposed market 4 “wholesale high-quality access provided at a fixed location” is overly broad and should be narrowed. The current market definition of market 6 relating to leased lines better captures the specificity of the business segment, and has not impeded NRAs in particular cases from extending the market to include other products.

## 5.2 Adapting to and supporting the transition to all-IP networks

An example of adaption to the transition to IP networks is consideration by regulators of Ethernet services under existing Market 6. Alongside recognition of the growth of IP network services regulatory requirements in relation to legacy network services need to be phased-out.

Removal of Markets 1 and 2 from the list of relevant markets is consistent with this objective. However, requirements in relation to legacy services in the leased line market will also need to be

<sup>32</sup> BT. January 2013. “BT’s response to the European Commission’s public consultation on the revision of the Recommendation on relevant markets.” [http://ec.europa.eu/information\\_society/newsroom/cf/dae/document.cfm?doc\\_id=1506](http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=1506)

<sup>33</sup> WIK. January 2013. “Business communications, economic growth and the competitive challenge”. [http://www.ectportal.com/en/upload/File/Reports/ecta\\_businesscustomers\\_final\\_5\\_clean.pdf](http://www.ectportal.com/en/upload/File/Reports/ecta_businesscustomers_final_5_clean.pdf)

<sup>34</sup> Orange. January 2013. “Contribution of Orange France Telecom European Commission Consultation On the Review of the Recommendation on relevant markets.” [http://ec.europa.eu/information\\_society/newsroom/cf/dae/document.cfm?doc\\_id=1533](http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=1533)

<sup>35</sup> ETICS. April 2013. “Detailed specification of ETICS components for the Inter-Carrier Service Delivery.” <https://www.ict-etics.eu/>

phased out to allow a transition to all-IP. National regulators and the European Commission should take positive steps in this direction in the near term.<sup>36</sup>

### 5.3 Geographic (or other) scope of the market

Particular emphasis should be given to the importance of considering geographic sub-markets in deciding where *ex ante* regulation is required, since central business districts and large business parks in particular may have competitive supply.

Given the development of competition and technology innovation in the business market the merits of the approach proposed by ARCEP, namely that the boundaries of areas where infrastructure competition has reached a satisfactory level are reassessed annually, could also be considered by other regulators and by BEREC.

There may also be business sectors or types of communications services for which infrastructure competition is more developed or more likely to develop. For example, line of site access services such as mobile backhaul may involve greater prospects for infrastructure competition given developments in fixed wireless link and free space optical technology – offering speeds of a gigabit per second or more.

### 5.4 Nature of price control

To the extent that mass market services meet the needs of businesses they will either be supplied competitively or subject to some form of *ex ante* regulation. We consider that the same principles developed in relation to the mass market to maximise the scope for flexibility and to limit the regulatory burden should also apply in relation to the business market where it is subject to *ex ante* regulation, namely:

- Where different services such as current and next generation exist in parallel and compete with one another the anchor product approach should be considered, namely that price regulation of one network is sufficient.
- Further where a price control is applied it should only be applied at one level in the network i.e. price controls should not be applied to both passive and active wholesale services.

We also consider that demand uncertainty is an important consideration when considering price controls in the business market. Whilst a leased line may be ordered and provided there may not be a long-term contractual commitment.

As the location and needs of business customers shift over time a degree of standing of leased line investment is to be expected. For example, leased lines might be replaced by wireless or free space optical links, or a business might relocate as different regions experience growth and decline.<sup>37</sup> Stranding risk should be considered in deciding whether a cost oriented price control is appropriate and if so at what level it should be set.

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<sup>36</sup> We note that the transition to all-IP is under active consideration in the US. <http://www.fcc.gov/blog/early-progress-efforts-learn-about-impact-technology-transitions>

<sup>37</sup> See for example The Economist, November 2012, “The landscape of decay and renewal.” <http://www.economist.com/blogs/freeexchange/2012/11/economic-geography>