3 Group's response to the Commission's consultation on 'Transforming the digital dividend opportunity into social benefits and economic growth in Europe'

This paper contains the response of the **3** Group in Europe to the Commission's consultation on *'Transforming the digital dividend opportunity into social benefits and economic growth in Europe'*.

The **3** Group is part of Hutchison Whampoa Limited's telecommunications division and includes the following operating companies in the EU: Hutchison 3G Austria GmbH, Hi3G Denmark ApS, Hutchison 3G Ireland Limited, H3G Spa (Italy), Hi3G Access AB (Sweden) and Hutchison 3G UK Limited (together, H3G).

The HWL telecommunications division, comprising the **3** Group, Hutchison Telecommunications International and Hutchison Telecommunications Hong Kong Holdings Limited, is the first global 3G operator, with licences in 10 countries[1]. Our 3G services were first rolled out in March 2003. The HWL Group had over 25 million 3G customers globally and close to 17 million in Europe as of 12 August 2009.

Summary

The **3** Group believes that the digital dividend has the potential to offer significant benefits to Europe's citizens through enabling widespread mobile broadband services and by rectifying some of the competitive distortions that have arisen because of previous spectrum awards.

To achieve this, the **3** Group supports the Commission's proposal for the 790 – 862 MHz band to be made available for mobile services. The **3** Group also supports a harmonized pan-European approach, combined with a tight timeframe for achieving it. The **3** Group has long argued the benefits of harmonization in terms of interference management, economies of scale and support for the internal market.

However, the Commission needs to go beyond its proposals in the current consultation and look at how the digital dividend spectrum should be assigned to support future mobile services and, in particular, how the digital dividend spectrum should be used to ensure competitive mobile markets and to rectify existing competitive distortions in those markets. This will help maximize the social and economic benefits of the digital dividend.

Finally, the **3** Group asks the Commission to take a cautious approach towards allowing the use of so-called "white spaces" or "frequency agile" services. It should consider the potentially significant risks as well as the benefits and base its assessment on current technology, not uncertain predictions of unproven future technologies.

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[1] Australia, Austria, Denmark, Hong Kong, Ireland, Israel, Italy, Macau, Sweden and the UK.

Detailed response

The contribution of digital dividend spectrum

Since the launch of mobile broadband in 2007 the **3** Group has experienced a significant consumer demand for these services. The higher speeds offered by the HSPA (High Speed Packet Access) upgrade to the existing 3G networks enables mobile data services, including internet access, at true broadband speeds. Mobile broadband offers greater convenience than fixed broadband since it enables users to access the internet when they are on the move and not just at home. Many other mobile broadband users are new to broadband because mobile offers them the flexibility they could not get from a fixed connection.

Mobile broadband does not just offer convenience. It is increasingly being seen as a part of the solution to providing ubiquitous broadband access. In most rural areas it is likely to be cheaper to provide broadband coverage using mobile technology rather than by fixed. The Irish Government's National Broadband Scheme demonstrates how mobile can provide rural coverage more cheaply than fixed. With digital dividend spectrum, mobile broadband services could be deployed more effectively in densely populated areas (in-house and deep-in-house) to promote a competitive alternative to other broadband technologies.

Mobile broadband services can also offer service to those who find it hard or impossible to get fixed broadband, for example because they are in temporary or rented accommodation. Pre-pay mobile broadband also provides an alternative form of accessing the internet for those customers who have poor credit ratings or who need to control their budgets, making it particularly valuable to the lower income segments of society.

If the benefits of mobile broadband are to be realized, the appropriate spectrum needs to be made available. This requires sufficient spectrum to enable operators to increase the capacity of their networks to match the rising demand for mobile data services. Acquisition of the right to use suitable spectrum, including spectrum in the 790 – 862 MHz band, will also make it viable for mobile operators to provide improved depth of coverage over a large geographical area, particularly facilitating rural and in building coverage. The digital dividend spectrum and, in particular, the 790 – 862 MHz band, will help satisfy both requirements.

Access to the lower frequency bands, which includes the 790 – 862 MHz band identified in the current consultation but also the 900 MHz spectrum already available to some mobile operators, has an impact on the costs and ability to provide coverage. Lower frequencies allow coverage of areas (both rural and urban) that would not be economic with higher frequencies. In particular, lower frequencies allow better coverage inside buildings where much mobile broadband usage is likely to occur. In remoter rural areas, lower frequencies allow for greater distances to be covered with fewer sites because signal levels travel further and are less affected by environmental obstacles.

Importance of harmonization

The **3** Group supports the Commission's proposal to encourage a harmonized approach to the digital dividend spectrum and, in particular, to designate the 790 – 862 MHz band for mobile use. There are significant benefits to harmonization in terms of managing interference, economies of scale and the internal market.

- **Interference**: Designating the 790 – 862 MHz band for mobile use will help minimize the risk of harmful interference, especially if this is done quickly and decisively throughout Europe. It will enable the spectrum authorities to specify in advance technical measures to minimize the risk of interference based on prior knowledge and testing of the technologies to be used in the band.

- **Economies of scale**: Harmonized spectrum bands allow cheaper equipment which drives mass market take up. Where the technology and spectrum bands are harmonized throughout the Union, this gives a larger market, which leads to scale economies in handset and network equipment design and manufacture. The presence of a large market also gives manufacturers the incentive to develop new equipment. Together this means cheaper handsets being available earlier, which leads to the earlier adoption of new technologies by consumers, and to cheaper services overall.

- **Internal market**: There are significant internal market benefits to a harmonized approach in terms of furthering cross-border services and the seamless use of services by citizens throughout the Union. Many of the internal market benefits come from externalities, which, by definition, are not valued by the market. By adopting a harmonized approach the Commission will capture these externality benefits. Cross-border roaming is an obvious example of a service that is facilitated by a harmonized approach to spectrum use.

The **3** Group supports the Commission's approach of designating at least a minimum band for mobile use to capture these benefits. Without a coordinated approach throughout Europe there is no guarantee that the market left to itself will capture these benefits. As noted above, the benefits of harmonization arise partly from externalities, and these benefits will not be achieved through the private incentives created through a market alone. The high values that consumers place on mobiles now arise partly from positive network externalities that are highly unlikely to be valued correctly in purely market derived prices.

Competitive impact of spectrum

The release of digital dividend spectrum for mobile use provides an opportunity to rectify existing competitive distortions in the spectrum assignments to mobile operators and so benefit Europe's citizens by promoting competitive markets. The Commission should recognize this huge potential benefit from the release of digital dividend spectrum by providing guidance to Member States on how to assign the spectrum to promote fair competition in an efficient and timely manner.

The amount of spectrum available to an operator determines its ability to compete. Access to greater amounts of spectrum allows operators to serve more customers at lower cost. Further, larger bandwidths of spectrum are also important in allowing greater data speeds to be achieved with next generation mobile broadband technologies (Long Term Evolution, or LTE).[2] As explained above, lower frequency spectrum has propagation characteristics that allow the frequencies to travel further and to penetrate better solid objects, thus enabling operators holding that spectrum to serve customers in more locations at less cost. Consequently, where operators

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[2] For example, providing indoor access to mobile broadband at 2 mbps will likely require contiguous bandwidths of lower frequency spectrum (the 790 – 862 MHz of 900 MHz bands) of at least 15 MHz paired.

have access to different amounts of spectrum or to spectrum in different bands, or where the spectrum is assigned to operators on substantially different terms, competition will be affected.

The current spectrum assignments in Europe mean that only some operators have spectrum in the lower frequency bands (currently the 900 MHz band) and that some operators have far more spectrum overall than their competitors. These differences in the distribution of spectrum are the result of state interventions rather than market forces. They arose in Europe because spectrum was historically state managed and assigned sequentially with the most valuable spectrum assigned first. They now have the potential to distort competition because of the policy change to allow different technologies to be deployed in the spectrum bands. The move to more flexible spectrum use and to greater reliance on market mechanisms could lead to past state actions distorting competition on both the market for spectrum and the downstream retail markets for mobile services.

The intensity of competition on Europe's mobile broadband markets could be significantly restricted by uneven distributions of spectrum. At its simplest, if lower frequency spectrum is restricted to, say, only two networks in a country then consumers in some rural areas will have the choice of no more than those two networks (and possibly only one network). More generally, preferential spectrum holdings may result in some operators providing better coverage, the ability to provide greater capacity at a lower cost and faster data speeds with the result that they will naturally capture more of the market and be less constrained by competition. Such competitive distortion may well be exacerbated in the event of consolidation or cooperation between the holders of lower frequency spectrum or large blocks of spectrum not available to other operators.[3] *"Ex ante"* competition law is not a sufficient remedy to the existing and foreseeable problems in these markets. Over the long term these distortions will result in consumers having less choice, paying higher retail prices and receiving less innovative services.

In short, for mobile broadband to succeed there must be equal opportunities for all operators in each national market to access different classes of spectrum band, such that competition is not distorted. The capacity, coverage and download speed capabilities provided to operators through spectrum policies should not be distorted.

This is where the digital dividend spectrum could be used to rectify competition distortions and thus promote more competitive markets. The availability of additional spectrum for mobile broadband services, both in the digital dividend bands and at 2.6 GHz, offers the potential to mitigate existing competitive distortions in spectrum assignments. This requires a holistic view to be taken across all current and likely future mobile broadband spectrum bands such that the spectrum resource available to any individual operator, and the terms on which it is available, do not become a source of competitive advantage. Further, spectrum holdings must not be fragmented, but allow operators access to the large contiguous bandwidths which can deliver higher speeds.

In addition Member States must take into account the different conditions facing mobile operators rolling out their networks using digital dividend spectrum. Some mobile operators already have a 900 MHz network and the associated infrastructure, which can be re-used for the 800 MHz

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[3] For example, the network sharing agreement between Vodafone and Telefonica means that all of the 900 MHz spectrum in the UK will be available to a single network only. In Sweden, the agreement between Telenor and Tele2 jointly to build a network for LTE will mean that a single network has 2/3rds of the 1800 MHz and 2.1 GHz spectrum and more than half the 900 MHz and 2.6 GHz spectrum.

spectrum, whereas other mobile operators do not. This may become a competitive distortion where there are regulatory restrictions, such as planning restrictions, that make it difficult, or in some cases almost impossible, to build new mobile sites. Planning restrictions impact, in particular, cell sites using frequency bands below 1 GHz because of the larger size of the antennas. In those situations Member States should improve and extend network sharing instruments (for example, mandatory antenna sharing) to promote competition.

The **3** Group urges the Commission to provide guidance in its final document on how Member States should assign the digital dividend spectrum so as to rectify these competitive distortions and thus ensure equal access to spectrum for all operators on a national market. Recital 5 and Article 1 of the revised GSM Directive set the policy requirements but the Commission should provide guidance to national regulators on how these will be achieved.

Further clarity is also needed around the timing and the award process. France and Germany are already at advanced stages of releasing 800 MHz spectrum. The Commission should urge other Member States to release the 800 MHz band as quickly as possible so that harmonization objectives can be achieved and to avoid that some Member States are left at a competitive disadvantage from delays in releasing spectrum. The Commission should ensure that all Member States adopt an open and transparent process for allowing operators access to the 800 MHz spectrum.

"White spaces" and "Frequency agile" mobile communications systems

The benefits of harmonization outlined above could be undermined were there to be unlicensed use of the digital dividend frequency bands, such as the use of so-called "white spaces" or "frequency agile" systems. Experience to date shows that licensed spectrum use is the best way to provide widespread coverage of mobile services. Where unlicensed services have worked they have provided short range services using high frequency bands, where the risk of harmful interference is minimized. Allowing unlicensed services to operate in lower frequency bands, such as the UHF bands, with their favourable propagation characteristics, risks far greater interference problems. The **3** Group urges the Commission to consider carefully the potentially significant risks against the possible benefits of allowing the use of white spaces or frequency agile technologies. In addition, this assessment should be based on known or reasonably anticipated technology and not uncertain predictions of unknown or unproven technologies.

4 September 2009

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