

Vodafone response to European Commission consultation document

“Transforming the digital dividend opportunity into social benefits and economic growth in Europe 10th July 2009”

27th August 2009

Vodafone welcomes comments and is happy to discuss the contents of this submission. Please contact Andy Hudson, Head of Spectrum Policy on +44 7786 250119 or at andrew.hudson@vodafone.com

Key Vodafone comments

Vodafone welcomes the Commission's continued focus on unlocking the digital dividend. We have consistently argued that the spectrum in the UHF band (470-862MHz) is the best spectrum likely to be available for the delivery of mobile broadband services, especially in rural areas, in the foreseeable future. It is vital that this spectrum is used in a way that provides the greatest benefits to European consumers and ensures that Europe's wireless industry remains world class. It must be used to build the fastest, lowest cost wireless broadband infrastructure possible at the earliest possible opportunity. This requires that it is not unnecessarily fragmented for new users and that existing holders of UHF spectrum – mainly broadcasters – are required to use the most spectrally efficient techniques for the delivery of their services.

Although considerable progress has been made in the past 12 months, Europe still risks losing leadership in unlocking digital dividend spectrum for the next generation of wireless broadband. We are at least 3 years behind the US, where Verizon Wireless is planning to deploy LTE in digital dividend spectrum this year (in the 700MHz band). Momentum for the release of digital dividend spectrum is also building in Asia and Africa. There cannot be a single global band for digital dividend spectrum, since two different frequency ranges were used for analogue broadcasting, and it is likely that three or even more bandplans could be adopted around the world. Vodafone strongly agrees with the Commission that leadership is now needed by the EU to minimise the risk of further fragmentation, both within Europe and between Europe and other regions of the world.

Vodafone is generally supportive of the Commission's assessment and its proposals outlined in the consultation document:

- We agree with the Commission's research¹ that the opening of the 790-862MHz sub-band for electronic communications services will bring significant social and economic benefits, confirming earlier work commissioned by Vodafone and others.
- We agree that the non-binding technical harmonisation outlined in section 5.2 of the consultation document is the preferred approach. However, we believe that stronger support for the preferred FDD CEPT bandplan would lead to more rapid adoption of mobile services, maximising economies of scale and roaming opportunities.
- We agree that the measures to accelerate analogue switch-off by 2012 are important. However, in addition to setting targets the Commission should consider further the use of transitional funding arrangements to facilitate and accelerate switch off. It is also important to track progress by Member States against actual release dates.

¹ Commission study "A European approach to the digital dividend" launched on 15 November 2008, conducted by Analysis Mason, DotEcon and Hogan&Hartson (http://www.analysismason.com/EC_digital_dividend_study)

- Vodafone has always believed that the use of more efficient technology by broadcasters is fundamental to making the most effective use of valuable UHF spectrum and that early decisions in this area are required given the costs of subsequent changes. Therefore, those countries where digital TV transmission is still at an early stage should launch digital services with more advanced technologies such as MPEG4 and DVB-T2.
- We agree a more holistic 5 year roadmap for spectrum at a European level will be helpful, as greater certainty will drive long-term investment in the industry.

Suggested actions for the Commission to take

- The Commission should support the CEPT preferred harmonised frequency arrangement. A strong lead from the Commission will promote harmonisation across Europe, ensuring economies of scale are realised and consumers gain the best user experience.
- Although there is no need to prescribe specific models, the Commission should examine the options for the licensing of the 790-862MHz spectrum, or encourage national regulators to consider adding this to the ERG or RSPG agenda. For LTE, wider channels (of at least 10 MHz and potentially 20 MHz or more) allow greater spectral efficiency and offer a better user experience. Given that the digital dividend spectrum is likely to present the last significant opportunity for unencumbered spectrum for some time, we will need to ensure that the licensing models developed for it will allow Europe to realise the objectives and aspirations we have for developing the fastest and lowest cost mobile broadband platform we can. Licensing models which would allow collaborative use of larger licences (of 10 or 20 MHz) by several operators will deliver lower costs and better performance than fragmented licences of 5 MHz. There will be legitimate concern to safeguard effective retail competition in such circumstances, but the Commission should encourage more creative thinking as Member States move from considering the identification of spectrum to the precise mechanics under which it is to be made available to the industry.
- There should be additional support for Member States to remove known national obstacles for rapid release of this spectrum (especially Portugal, Italy, Poland, Lithuania). Assistance should be prioritized to support those countries where delay in these markets will inhibit release in neighbouring Member States most. The Commission should also coordinate discussions between Member States and the Russian Federation and other neighbours to address coordination with legacy non-broadcast systems in these countries.
- The Commission should consider encouraging the establishment of national Digital Transition Funds to facilitate more rapid switch-off of analogue TV and spectrum clearance.
- As part of a longer term strategy, the Commission should begin to think about the conditions which would need to be met in order for it to consider making additional spectrum, beyond the initial 72 MHz, available (such as following the adoption of SFNs). All parties would benefit from clarity about the conditions which would need to be met before we consider further release of UHF spectrum. In this connection, we support the findings of the Commission study¹ that “research should begin now on a possible second sub-band or total clearance”.
- The digital dividend spectrum can play an important role in the provision of mobile broadband, particularly in rural areas. The Commission should therefore ensure that

guidance around fibre deployment and the strategy for rural broadband (fixed or wireless) coverage are part of the same policy debate in the Commission's 'Broadband Strategy'.

Additional specific comments on the text

4. Proposed elements of the roadmap

4.1. Improving consumers' experience by ensuring high quality standards for digital television receivers

- We support both initiatives.
- We assume that the reference in paragraph a. to “a compression standard that is at least as efficient as the H264/MPEG2 AVC standard” is intended to refer to a specific standard, and not to any standard meeting this criterion. The “chicken and egg” issue can obviously only be solved if all TV sets and set top boxes support the same compression standard as the one that the broadcaster intends to use.
- We believe that a number of specific actions will be needed by both the Commission and the TV manufacturing industry to ensure that digital TV receivers are able to adequately resist interference. These are described in more detail in Annex 1 to this response.

4.2. Increasing the size of the digital dividend through further spectrum efficiency gains

- We support the promotion of collaboration between Member States to share network deployment plans.
- Vodafone believes that a phased approach to broadcast migration is appropriate, and three distinct phases are proposed in a study jointly commissioned by Vodafone in 2008 (Annex 2). The study outlines, on a per country basis, recommended steps to ensure a smooth transition and outlines how DTT networks could be optimised in the future. We suggest the Commission should consider requiring Member States to share information on all the Level III options considered in the study (Single Frequency Networks, MIMO, Frequency Re-allocation and 64QAM) rather than considering only the move to Single Frequency Networks.
- We welcome the support of research into frequency agile mobile communication systems. We agree with the Commission that the development of such systems would require significant investments. The mobile industry is best placed to make these investments. This research is therefore most likely to yield results if it is targeted at enhancements to existing mobile systems rather than developing completely new ones.

4.3. Making the 800MHz band available for electronic communications networks

- We support this measure and the approach for the 790-862MHz sub-band. The bandplan is a necessary component of the technical conditions to achieve the Commissions' policy objectives for the digital dividend. Without the bandplan, the harmonised technical conditions do not lead to common products, and therefore to economies of scale or roaming.

4.4. Adopting a common position on the potential use of the “white spaces” as part of a possible extension of the digital dividend

- Whilst cognitive technologies are potentially promising, we believe there are still significant technological and commercial challenges which will need to be addressed. In particular, there are serious doubts as to whether cognitive devices that rely on detection alone to avoid interference are compatible with the European regulatory framework. Current research indicates that these devices can only detect a primary spectrum user before causing interference to it if the device is designed to detect the specific characteristics of the primary system.

4.5. Ensuring the continuity and further development of wireless microphone applications and other secondary use of UHF spectrum

- We believe the preferred long-term solution would be for secondary users to be migrated out of the 790-862MHz sub-band, apart from the centre gap of the bandplan.

4.6. More effective cross-border coordination with non-EU countries

- We agree that the Commission has a particularly important role in coordinating discussions between Member States and the Russian Federation and other neighbours to address coordination issues.

4.7. Addressing future challenges

- We believe it is very important to start addressing these issues immediately, as outlined above.

5. Urgent actions

5.1. Accelerating analogue switch-off by 2012

- We agree that the measures to accelerate analogue switch-off by 2012 are helpful. This is a challenging but achievable timescale. However, analogue switch-off does not automatically free the 790-862MHz band for mobile

services – it may also be necessary to make changes to the digital TV channel plan to move all transmitters below 790MHz. We believe it is therefore more useful to track progress by Member States against actual dates of release of spectrum for mobile services.

- The Commission should also facilitate the coordination between Member States needed to move digital broadcasting assignments below 790MHz, especially for countries such as Spain and Portugal that have particular difficulties doing so.
- We believe that the Commission should also consider providing guidance on the appropriate use of Digital Transition Funds as a means of accelerating switch-off to meet the 2012 timescale.

5.2. Taking steps towards the opening of the 800MHz band for electronic communications services by adopting harmonised technical conditions of use in Europe

- We support this in principle, and suggest this be based on the FDD preferred bandplan recommended by the CEPT.

Annex 1 Immunity standards for TV receivers

Regulatory action by the Commission

Digital TV receivers may only be placed on the EU market if they comply with the requirements of the EMC Directive². This requires that:

”Equipment shall be so designed and manufactured, having regard to the state of the art, that...it has a level of immunity to the electromagnetic disturbance to be expected in its intended use which allows it to operate without unacceptable degradation of its intended use”.

The applicable Harmonised Standard (EN55020: 2007) is already outdated; the only test signal for immunity from TV transmissions is analogue PAL (even for digital receivers). This is already becoming inadequate with the widespread introduction of digital TV transmission, and will be completely inappropriate once analogue switch-off has taken place in 2012. The standard also does not properly address conducted immunity from GSM900 terminal transmissions.

The Commission should therefore, without delay, issue a Mandate to CENELEC to revise this Standard, to address immunity from mobile broadband services in the 790-862MHz band and to remedy the existing shortcomings. However, it is based on a CISPR standard, so it will be a long time (perhaps as long as 3-4 years) before the revision comes fully into force (i.e. cessation of presumption of conformity of the superseded version of the standard). The Commission should therefore encourage the voluntary adoption of these requirements at an earlier date by the TV manufacturing industry.

The Commission should encourage greater transparency in the activities of CENELEC, in particular by allowing industry to participate directly in its work.

Voluntary action by industry

As it will take several years for the current edition of EN55020 to be superseded, the Commission should encourage the TV manufacturing industry to meet the new requirements on a voluntary basis in the meantime. This could be achieved by including these requirements in the EICTA MBRAI specifications for DVB-T receivers or by making them a requirement for voluntary certifications schemes such as the ”digital tick” in the UK.

² 2004/108/EC

Annex 2 Broadcast Migration Study

Broadcast Migration Study: Optimising DTT Delivery in Europe to Maximise the gains from the Digital Dividend, *Spectrum Value Partners*, October 2008