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**GSMA Europe response**

**EUROPEAN COMMISSION CONSULTATION DOCUMENT**

**“Transforming the digital dividend opportunity into social benefits and economic growth in Europe“**

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## Summary

GSMA Europe welcomes the opportunity to respond to the public consultation on “Transforming the digital dividend opportunity into social benefits and economic growth in Europe”. GSMA Europe strongly supports the overall objective of facilitating coordination across the EU and the urgent actions proposed to secure benefits to consumers and to ensure that this spectrum can contribute effectively to EU economic recovery.

GSMA Europe is of the opinion that:

- 1) **Benefits of Coordination** – GSMA Europe believes there is significant value in an early coordinated approach to the release of Digital Dividend spectrum in Europe.
- 2) **Benefits of Harmonisation** - We believe there will be significant benefits of harmonisation across Europe at a National and European level.
- 3) **Importance of EU Leadership** – Ultimately decisions on spectrum are made at a national level however there are such significant benefits to all European markets of introducing harmonised services, mainly through economies of scale but also from R&D investment and roaming.

A lack of leadership from the EU also presents a risk of fragmentation within ITU Region 1 (Europe, Middle East and Africa).

- 4) **Cost of Delay** - It is important for the EU and National Governments to make a strong commitment and indication of commitment as early as possible to allow for R&D investment and infrastructure planning.
- 5) **Further issues for consideration** – In almost all EU countries, some modifications will be needed to the GE-06 plan to allow for the deployment of mobile services in 790-862 MHz. The commission has a valuable role in facilitating discussions where cross border issues are preventing deployment.

The Commission also has a role to encourage harmonised solutions within ITU Region 1. This will benefit European consumers and European equipment suppliers.



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### Introduction

The GSMA agrees that in Europe we have a unique opportunity to contribute to the economic recovery process, in ensuring that the Digital Dividend is made available in Europe as quickly, and widely as possible. We agree with Commissioner Reding that "As a result of the switchover from analogue to digital TV, tremendous spectrum resources will become available for other uses, especially for wireless broadband. The incremental value of using the digital dividend spectrum for wireless broadband across the EU is estimated to be between €150 – €200 billion. The digital dividend could allow Europe to extend its leadership in electronic communications services, creating growth and jobs, increasing productivity and giving greater access to broadband services for all Europeans."

The GSMA welcomes the fact that all EU countries that have made firm decisions to make digital dividend spectrum available for mobile broadband have decided to release the same 790-862MHz band, and we expect them all to adopt the preferred harmonised frequency arrangement developed by CEPT. However, the draft ECC Decision allows other frequency arrangements, and there remains a risk that some countries might consider adopting these for reasons of short term expediency. However, doing so would frustrate the policy goals set out in this consultation document. We would therefore encourage the Commission to assist any country that might find itself in this situation to work to finding a solution, together with its neighbours.

The GSMA would urge the Commission to ensure that as a first step, analogue switch-off is done as quickly as possible in Member States. This is a vital pre-requisite in being able to ensure that the Digital Dividend can play its fullest role in promoting economic recovery.

Harmonisation of spectrum produces substantial benefits for consumers, governments and industry and fragmentation creates unnecessary costs. GSMA analysis of economies of scale at the handset level showed that fragmentation could double the handset costs when the market size is reduced from a region the size of the EU to a country the size of the Italy<sup>1</sup>.

Designing handsets to support multiple national band plans reduces the efficiency and the performance of the handset, and will clearly have a significant cost to European consumers. Fragmentation could also lead to significant delay, as this may well mean that the time taken to establish a large enough ecosystem of UHF mobile broadband equipment is lengthened.

The GSMA also agrees with the Commission that there is significant social value from releasing the 800MHz spectrum for mobile services. Not least of which is its ability to help promote economic growth and jobs, as well as promoting rural broadband coverage.

The 800 MHz spectrum has excellent propagation characteristics and will therefore allow broadband services to be delivered to geographic areas currently unsupported by fixed infrastructure. The provision of broadband internet access delivers significant value through access and inclusion, community, education, informed democracy and cultural understanding. Research commissioned by Ofcom in the UK has shown that the incremental social value of television, beyond the provision of the existing public service broadcasting services delivered today, is marginal. Early allocation of 800MHz for mobile services is therefore a win-win in Europe, delivering significant economic value and significant incremental social value by enabling access to the digitally excluded.

The GSMA is strongly supportive of the views of the European Commission in recognising that there are significant societal and economic benefits to be gained from the unique opportunity of making

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<sup>1</sup> "The advantages of common frequency bands for handset production". See [www.rttonline.com/home\\_frame.htm](http://www.rttonline.com/home_frame.htm)



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available a digital dividend in the UHF band. We also recognise there is significant momentum at a National level towards the identification and allocation of this band for mobile services. Sweden, Finland, France Germany Denmark, and the UK having already decided to allocate, Spain stating its intention to allocate the spectrum for broadband services, and many EU countries including the Netherlands, Greece and Ireland are actively considering doing so.

### **Further issues for consideration by the Commission**

The GSMA has identified two further issues for the Commission to consider. These areas are important to achieve the desired policy objectives but are not addressed consultation document.

### **Facilitating replanning of digital terrestrial television to clear the 790-862MHz band**

The switch-off of analogue broadcasting is a necessary but not a sufficient condition for the introduction of mobile broadband; it is also necessary for all the digital broadcasting to be below 790MHz. In almost all EU countries, some modifications will be needed to the GE-06 plan to achieve this, even if not all of the layers in the plan are used for digital broadcasting. A study undertaken for Ofcom illustrates that it rapidly becomes more difficult to make changes to the digital TV frequency plan as the switchover progresses<sup>2</sup>.

These changes will require bilateral and multi-lateral agreements between a country and its neighbours. For the most part, there is no need for the Commission to be involved in this process. However, the use of TV channels above 790MHz in the GE-06 plan varies significantly, and some countries may incur significant additional costs in order to enable a neighbour to move its digital broadcasting below 790MHz. In these cases, the Commission may be able to facilitate the process.

In most EU countries, the existing analogue broadcasting extends above 790MHz. This will impose significant constraints on the deployment of mobile broadband in the border areas of neighbouring countries (which for smaller Member States is the majority of their territory) until the analogue broadcasting ceases. This highlights the importance *at a European level* of an early date for analogue switch-off.

### **Encouraging the adoption of the harmonised technical conditions outside the EU**

Many important decisions taken in Europe regarding spectrum allocations and the associated bandplans have been adopted elsewhere in ITU Region 1 (Europe, Middle East and Africa) and in much of Region 3 (Asia Pacific). This harmonisation has benefited European consumers through leveraging economy of scale and through ease of roaming, and has advantaged European industry.

Many countries in the Middle East and Africa have do not have widespread television broadcasting, and therefore have the choice to deploy mobile broadband networks either within the European 790-862MHz band or the 698-806MHz band that is identified for IMT in ITU-R Region 2 (the Americas) and Region 3. At present, the only mobile broadband equipment being developed for either frequency range is for the US market, which has bandplans which makes very inefficient use of the spectrum for mobile broadband. The early availability of equipment for the preferred harmonised frequency arrangement would give these countries an alternative choice that would benefit both them and European industry and consumers.

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<sup>2</sup> See: Digital Dividend: Clearing the 800MHz band; Ofcom consultation; 2 Feb 2009, and CH61 and 62 Refarming; Study by Arqiva, Final report; 27 Oct 2008  
<http://www.ofcom.org.uk/consult/condocs/800mhz/>



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## **Proposed Elements for a Roadmap**

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

The GSMA supports this element, and both the actions suggested.

#### **Availability of Advanced compression standards**

Increasing the availability of advanced compression techniques on DTT receivers will help enable this valuable spectrum to be used as efficiently as possible. The GSMA agrees with the digital dividend study that the benefits to Europe would substantially outweigh the costs. Moreover, the EU-wide adoption will increase these benefits and reduce the barriers to individual countries implementing these techniques in their broadcast networks.

#### **Immunity of Digital TV receivers to interference**

The GSMA agrees with the European Broadcasting Union that current standards for digital TV receivers are inadequate, and "the EU should address this issue as a matter of urgency". If anything, the immunity performance of new TV receiver models is worsening, as manufacturers implement new technologies that enable TV tuners to be made without any front-end filtering whatsoever within the UHF band.

The immunity requirements for Digital TV receivers are addressed in EU law by the EMC Directive<sup>3</sup>. 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 Commission should therefore ensure that the applicable Harmonised Standard (EN55020: 2007) is revised, and should send a Mandate to CENELEC to ensure that this work is started as soon as possible.

### **4.2 Increasing the Digital Dividend through further spectrum efficiency gains**

The GSMA supports these actions.

Ensuring that spectrally efficient technologies for broadcasting are used as widely as possible; fostering cooperation on dates of DTT network upgrades would assist in achieving this.

It is essential that research into frequency agile systems addresses enhancements to existing systems such as LTE, as well as completely new systems. In fact, many of the techniques that are considered as new or innovative in the context of cognitive radio are already included in the standards for mobile technologies such as LTE. The investments that will be needed to realise these advances are far easier to fund in the context of an already substantial industry. However, the GSMA believes that further research effort in this area would be beneficial.

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<sup>3</sup> 2004/108/EC



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#### **4.3 Making the 800 MHz band available**

The GSMA strongly supports a timely conclusion to the process of making 790 – 862 MHz available for electronic communication networks such as mobile broadband services. The GSMA supports all measures that will help in this process. This will help to minimise uncertainty. Continued uncertainty is a constraint to investment, R&D and innovation, not only in the mobile sector but in all sectors that depend on mobile technology to enable new business practices and to the new media industry that will exploit the new capabilities to deliver new consumer propositions. Without clarity on when and how this band will be made available in the EU, there remains the danger that new and innovative services, such as mobile broadband, will be unnecessarily delayed.

The GSMA believes strongly that the harmonised technical conditions should include a harmonised bandplan. CEPT has developed such a bandplan, the “preferred harmonised frequency arrangement”. A harmonised bandplan is especially important for this band, because of limited spectrum availability, the need to deploy wide channel bandwidths and wide area coverage. The combination of these factors makes interference management for non-harmonised bandplans particularly difficult – with a consequential reduction in usable spectrum. The Commission should encourage all Member States to adopt this bandplan, and should consider including only this option in the proposed EC Decision on technical harmonisation.

The GSMA believes the 800 MHz band should be made available on a technology neutral basis as far as is practicable. This is entirely consistent with the GSMA view on the need for a harmonised bandplan, which in the case of the preferred harmonised frequency arrangement is for FDD. TDD and FDD are frequency management techniques, not technologies. All of the likely technologies for deployment in this band (predominantly LTE and WiMAX) have both FDD and TDD modes. There is no established market elsewhere in the world for equipment operating within this frequency range. However, terminals for this frequency band will also need to support other European mobile bands, and these are mainly FDD<sup>4</sup>.

#### **4.4 Adopting a common position on the potential use of “white spaces” as part of a possible extension of the Digital Dividend**

The GSMA agrees with the Commission that there should be an examination of potential use of interleaved spectrum or “white space”. However, the Commission should be very cautious about authorising the use of interleaved spectrum by licence-exempt devices. Once such devices have been deployed, it is extremely difficult to withdraw them from service. They could then prevent this spectrum being redeployed for other, much more valuable, uses (such as an extension of mobile broadband spectrum following the migration of digital broadcasting to SFNs, as envisaged in section 4.2b).

#### **4.5 Ensuring the continuity and further development of wireless microphone applications and other secondary uses of the UHF spectrum**

The GSMA agrees that secondary users of the UHF spectrum need a migration path to vacate future mobile broadband spectrum. For many wireless microphone (PMSE) users, the centre gap of the preferred harmonised frequency arrangement offers such a migration path. Other users may need to be accommodated in the digital broadcasting spectrum below 790MHz. Where possible, secondary users should be migrated to higher frequency bands where the opportunity cost of use is lower.

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<sup>4</sup> It should be noted that WiMAX uses half duplex FDD, which is easier to combine with TDD in a terminal than the full duplex FDD used by LTE.



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#### **4.6 More effective cross-border coordination with non-EU countries**

The GSMA supports this principle, and would ask the Commission to help encourage countries adjacent to the EU to deploy mobile broadband following the preferred harmonised frequency arrangement, both for their own national benefit and to simplify the coordination with their EU neighbours. This is important, in our view, in order to achieve equitable agreements and will reduce uncertainties about the conditions for using 800MHz band for mobile broadband in countries located at the border of non-EU countries.

#### **4.7 Addressing future challenges**

The GSMA welcomes the Commission's proposal to establish a mechanism to monitor external developments affecting the roadmap. The GSMA would suggest that this process should include industry stakeholders. It is likely that this review process will indicate the potential for more digital dividend spectrum to be released at some point in the future. It is not too early for the Commission to start considering how this spectrum could be most effectively used.

### **5. Urgent Actions**

#### **5.1 Accelerating analogue switch-off by 2012**

*The GSMA strongly supports this objective.* The switch-off of analogue broadcasting, is a precondition for the launch of mobile broadband services. It is important that administrations prepare as soon as possible next steps in order to release channels 61 to 69 for mobile broadband.

The date of 1st January 2012 is an ambitious target, but an achievable one in most Member States. By this date, LTE mobile broadband infrastructure and terminals will be widely available for this band, especially as at least one Member State has announced plans for deployment of mobile broadband at an earlier date. However, this is dependent on there being regulatory clarity by the end of this year, and sufficient market scale to drive down terminal costs.

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

The GSMA believes that harmonised technical conditions are fundamental to the rapid deployment of mobile broadband in the 800MHz band. GSMA members contributed to the development of the technical conditions contained in Draft ECC/DEC/(09)EE and CEPT Report 30, and GSMA recommends that any harmonised technical conditions adopted by the Commission are based closely on these, taking into account any changes resulting from public comments.

To achieve an EU market for terminals, the technical conditions need to consist of both emissions masks (block edge masks) and the frequency arrangement. ECC/DEC/(09)EE contains a total of four frequency arrangements – the preferred harmonised frequency arrangements and three alternatives for administrations which do not wish to implement it (the 4th alternative is partial implementation of the preferred harmonised frequency arrangement). These alternatives each have many options for implementation; in order to meet the block edge mask requirements, the terminals would need to be specific to a specific case (in order to meet the block edge mask requirements). In other words, each Member State that did not implement the preferred harmonised frequency arrangement would require



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different and incompatible terminals for a purely national market. This runs counter to the policy objectives of the consultation document.

The GSMA would therefore encourage the Commission to seek agreement from Member States that only the preferred harmonised frequency arrangement is included in the harmonised technical conditions.

It is important that any technical harmonisation measure does not create uncertainty for industry or member states, because this could lead to delay rather than momentum. This can be avoided by limiting the scope to technical matters and basing it closely on the ECC Decision.

### **About the GSMA in Europe**

The **GSMA** in Europe represents 171 operators in 51 countries/areas in Europe and counts around 600 million subscribers. Globally, the GSM Association represents over 700 operators in over 200 countries and counts around 3.8 billion subscribers ([www.gsmeurope.org](http://www.gsmeurope.org)).