

MOTOROLA RESPONSE TO DIGITAL DIVIDEND PUBLIC CONSULTATION
September 4, 2009

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

General statement:

Motorola would like to thank to the European Commission for the opportunity to contribute to Public Consultation on the benefits that the Digital Dividend spectrum offers to the European citizens and economy.

This response builds on our previous contributions, in particular:

- Response to Public Consultation on the Review of EU Regulatory Framework for Electronic Communications Networks and Services in October 2006.
- In May 2007, during the European Commission's conference on "Bridging the Broadband Gap", Motorola underlined the importance of wireless solutions to "connect the unconnected".
- Motorola commissioned a report on the requirements of Public Safety spectrum users, available at: <http://www.public-safety-first.eu>, May 2008.
- Motorola's position presented during the Public Hearing "Exploiting the digital dividend" – a European approach, March 24th 2009 Brussels.
- Motorola contribution to joint response to the consultation on the RSPG¹ Opinion on the Digital Dividend, June 30 2009.
http://rspg.ec.europa.eu/consultations/responses_digitaldividend_090515_0630/index_en.htm
- Motorola contribution to joint industry response to the consultation on the RSPG Opinion on the Digital Dividend, July 3, 2009.
http://rspg.ec.europa.eu/consultations/responses_digitaldividend_090515_0630/index_en.htm

3.0. A Common way forward: Towards an EU Roadmap

In particular with reference to a substantially larger Digital Dividend² under planning by the APT³ countries and in parts of Region 2 we do agree with the strategic approach of concentrating common efforts at EU level towards further increasing the size and quality of the currently identified European Digital Dividend spectrum for both the strengthening of the single market and for improving EU competitiveness in the global markets.

4.1. Improving consumers' experience by ensuring high quality standards for terrestrial digital television receivers in Europe and 4.2. Increasing the size of the digital dividend through further spectrum efficiency gains

We agree with the significance of providing the best possible TV-viewing experience to the European consumers and with a way to achieve this based entirely on the application of more efficient digital coding schemes and standards. Sharper images with less interference potential and more spectacular sound reception shall not come at the expense of simple consumption of additional spectrum but as a result of more efficient use thereof.

Furthermore we take the view that the demand of applying the most spectrum efficient yet highest quality TV distribution networks should reside with the operators, whilst the consumers' acquisition and the take-up of receiving equipment shall be based entirely on market forces.

¹ RSPG (Radio Spectrum Policy Group)

² 698 – 806 MHz

³ APT (Asia-Pacific Telecommunity) <http://www.apr.int/index.html>

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We also share the view that, wherever economically feasible, the network design topology of SFN's⁴ should be encouraged over MFN's⁵ in order to further enhance spectrum efficiency.

The aim to support research into "frequency agile" mobile systems (such as cognitive radio systems) is also fully supported by Motorola.

4.3. Making the 800 MHz band available for low/medium power electronic communications networks, under harmonised technical conditions, following the principle of technology and service neutrality.

Motorola supports European harmonization of the 790-862 MHz band including the adoption of technical measures in pursuance of the Radio Spectrum Decision⁶ following the previously adopted decisions on the bands 2500 – 2690 MHz⁷ and 3400 – 3800 MHz⁸

Whilst we generally support the regulatory principles of technology and service neutrality we also note the need for the greatest regulatory certainty at this time. We therefore support the clarity of regulation having a clear band plan based on a 5MHz channel granularity and with technical parameters consistent with technological developments underway in 3GPP and ITU. We believe this to be an essential component in the future regulatory environment. Also, because of the unique operational requirements of communications networks needed to support public service uses such as Public Protection and Disaster Recovery (PPDR) or public security, some departure from absolute adherence to service neutrality is necessary to meet the communications needs of these essential protection and security functions.

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

For the "white spaces" to be successfully exploited by mobile services Motorola takes the view, that this exploitation shall be based on a harmonized standard or a set of harmonized standards developed and adopted by ETSI TC RRS⁹ and if required through facilitation by a Commission Standardisation Mandate. Interference and other technical issues could be studied by CEPT as part of a mandate from the European Commission.

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

Motorola is of the opinion, that it should be the aim longer term to reallocate all PMSE¹⁰ services currently making use of the 470 MHz to 862 MHz band and identify a common EU spectrum for these services. Wireless microphones, in-ear monitors and musical instrument transmitters do not operate in an ideal way in the UHF band, which require long antennas/cables strapped to the user and benefitting mostly longer range/large cell operation (such as broadcasting and/or mobile systems). **Motorola recommends that a special Commission Mandate to CEPT is an appropriate way forward to identify a common, harmonized solution to PMSE.**

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

As we stated in the consultation regarding the RSPG opinion on the Digital Dividend we find it a useful way forward if Commission assistance could be provided to Member States in eventual bilateral cross-boarder coordination negotiations.

⁴ SFN (Single Frequency Network)

⁵ MFN (Multi Frequency Networks)

⁶ 676/2002/EC on a regulatory framework for radio spectrum policy in the European Community

⁷ 2008/477/EC on the harmonisation of the 2 500-2 690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community

⁸ 2008/411/EC on the harmonisation of the 3 400-3 800 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community

⁹ TC RRS (Technical Committee Reconfigurable Radio Systems (Cognitive Radio))

¹⁰ PMSE (Program Making and Special Events)

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4.7. Addressing future challenges

We agree with the Commission that the extent of consumer take-up of HDTV on the terrestrial platform is a relevant uncertainty, whilst we note, that a wide spread and growing implementation of terrestrial HDTV distribution networks might have a negative impact on the opportunity for further expansion (below 790 MHz) of the current Digital Dividend (790 – 862 MHz)

4.7.1 A higher growth of broadband wireless usage leading to a spectrum bottleneck;

As it is the key aim of the digital dividend to provide wide area access to wireless broadband services we take the view, that a higher than expected demand for this class of services is demonstrating the success of the Commission's strategy and call for an accelerated political effort to further expand the digital dividend band.

4.7.2 The emergence of unforeseen additional broadband uses which would require access to more spectrum below 1 GHz, for example public service uses such as Public Protection and Disaster Recovery (PPDR) or public security;

The need for broadband communications as an important supplement to current voice operations to serve Public Protection and Disaster Recovery (PPDR) or public security operations is well documented, both within and outside of EU territory. As noted in a study commissioned by Motorola¹¹, enhanced broadband capabilities will empower Public Safety organizations to move human resources into the field, increase situational awareness and facilitate command and control. They will be used to collect and disseminate timely information such as medical records, details of dangerous substances, maps, pictures and video to and from the various emergency responders. Further, the recent Council / JHA¹² Recommendation¹³ on improving radio communication between operational units in border areas recommends that additional spectrum for future high-speed data use is found. Note that, in its Systems Reference Document¹⁴, ETSI has estimated the future total demand for PPDR spectrum to be 2x16MHz divided as 2x3MHz for narrowband, a 2x3MHz for further wideband traffic and also 2x10MHz for new broadband services.

Outside the EU, after significant study, the US National Public Safety Telecommunications Council has supported spectrum for broadband communications and the Federal Communications Commission has identified 2 x10 MHz from its digital dividend spectrum in the 700 MHz band for public safety broadband operations.¹⁵

As noted in our response to Section 4.3 above, we believe that some departure from absolute service neutrality is necessary to ensure the needs of Public Protection and Disaster recovery (PPDR) and public security services are met. While compatible commercial broadband technology can serve both commercial and public safety needs, the actual deployment of that technology will differ between commercial and public safety operations. Compared to commercial systems, public safety systems, as well as many critical infrastructure communications systems, are normally built to a higher level of requirements. These include quality of service (QoS), resilience, capacity to accommodate significant peaks required during a major incident or disaster, security, customized features and control. Public safety and critical infrastructure systems also often must cover areas with lower population densities that may not be economical for a commercial system deployment.

¹¹ Report available at: www.public-safety-first.eu, May 2008

¹² JHA (Justice and Home Affairs)

¹³ Council Recommendation 10141/09

¹⁴ ETSI TR 102 628, June 2009 - System reference document; Land Mobile Service; Additional spectrum requirements for future Public Safety and Security (PSS) wireless communication systems in the UHF frequency range

¹⁵ See record in FCC Docket 06-229.

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While spectrum provided for commercial services has many benefits including growth of the economy, such growth will easily evaporate if the citizens and businesses within the EU are not provided effective and efficient emergency and security services because essential communications requirements are not met going forward. For these reasons, we encourage the European Commission to give full consideration on an expeditious basis to enabling realistic broadband communications solutions for Public Protection and Disaster recovery (PPDR) and public security services by dedicating spectrum in the bands below 1 GHz for this use.

4.7.3 The pace of introduction of new technologies: new transmission compression standards, new frequency agile technologies and their ability to take advantage of the white spaces;

We take the view that Industry at large, caused by the influence of the global economic crisis, is negatively impacted in its ability to deliver and introduce new technologies and produce ground-breaking innovation. So we do agree that this currently is a relevant factor of uncertainty. We finally note that the EU roadmap should allow enough flexibility that would enable the needs of new technologies such as the IMT-Advanced family to be taken into account in a timely manner

4.7.4 The possibility to create synergies with other regions of the world in the light of not foregoing the chance to benefit from potentially world-wide economies of scale.

Currently the Asia Pacific Region is in the process of reaching (if possible) agreement as to a harmonized technical regulation of the band 698 – 806 MHz. The extent to which this will succeed will determine our possibilities in the EU to create synergies with this Region and consequently improve the EU level of competitiveness outside the Union. We agree that this currently is surrounded by some uncertainty.

4.7.5 The Commission proposes to establish a mechanism to monitor external developments affecting the roadmap. The Commission would report on any need for its review to the European Parliament and Council at least once every two to three years. This reporting would include changes in forecasts for spectrum demand and identify any future need for making further spectrum available on a co-ordinated basis. Further details on the proposed action lines and how they could be implemented should be defined following a full policy debate regarding the scope and precise nature of the follow-up to be given to these proposals.

Motorola is very supportive of the development of the EU Roadmap, and the establishment of a mechanism to monitor outside-EU developments affecting the roadmap. We suggest the mechanism should result in reporting to the European Parliament and Council at least once every ITU-R study period in order to be effective. We further suggest this should happen first time prior to WRC12, where the Region 3 preparation for AI 1.17 and AI 1.19 could be of particular interest.

5.1 Accelerating analogue switch-off by 2012 and 5.2. Taking steps towards the opening of the 800 MHz band for ECS¹⁶ by adopting harmonized technical conditions of use in Europe.

Motorola fully agrees with the urgency of these matters in the furthering of the EU efforts of economic recovery and with the proposed timing calling for effective switch-off of analogue TV no later than beginning of 2012 by Member States and the adoption and publication of an EC Decision on the technical harmonization of the 790 – 862 MHz band beginning of 2010.

¹⁶ ECS (Electronic Communication Services)