

**ABERTIS TELECOM COMMENTS ON THE  
PUBLIC CONSULTATION / CALL FOR  
INPUT IN PREPARATION FOR THE RADIO  
SPECTRUM POLICY PROGRAMME.**

## INTRODUCTION

abertis telecom, the leading broadcaster network operator in Spain, welcomes the opportunity to express its views on the call for input in preparation for the Radio Spectrum Policy Programme and the opportunity to make a contribution which is the object of this public consultation.

The Commission, in order to prepare a legislative proposal to be adopted by the European Parliament and the council, will take into account the opinion of Radio Spectrum Policy Group, and the results of the Spectrum Summit (March 2010). In this framework, the Commission Services give the opportunity to all interested parties to provide any input for the preparation of the multi-annual RSPP.

abertis telecom recognises the importance of this process and believe in the potential that new technology and digital delivery platforms (Digital Broadcasting and broadband) have for Europe's citizens. Spectrum is a scarce natural resource which is used to bring audiovisual content to large majority of viewers and listeners, hence essential for making content available to as many EU citizens as possible and fulfilling important economic as well as social, political and cultural functions. Efficient use of spectrum is very important and shall be required from all users.

**Spectrum** is a crucial resource for vibrant and innovative terrestrial broadcasting. A sufficient amount of spectrum is needed to keep and fully exploit the benefits of terrestrial broadcasting, today and in the future. The digital dividend for services other than broadcasting should be limited to the 800 MHz band taking account of the overall environment. Any further reduction of broadcasting spectrum is likely to entail a significant migration to other broadcasting platforms, involving additional costs for broadcasters, network operators and the public. Furthermore, this would make the terrestrial platform less viable in the long run and would consequently reduce competition between broadcasting platforms.

**Terrestrial broadcasting** is optimal for the delivery of radio, TV and innovative media services to large audiences whilst respecting diversity and different local, regional and national perspectives. In Spain it is, and will remain in the future, a fundamental way to guarantee universal access to radio and TV content for fixed, mobile and portable devices and to fulfil the EU general interest objectives assured by audiovisual policies. No other single platform can replicate these benefits.

**Broadband networks** are optimal for personalized, on-demand and interactive services that are essential for today's media organizations. To support audiovisual policy objectives they must be ubiquitous and open and guarantee coverage and quality of service for all users.

**Wireless broadband** must be considered in the overall context including all available broadband technologies (Satellite, WiMax, ...) and frequency bands. Wireless broadband is neither a viable replacement for terrestrial broadcasting nor an alternative to fixed broadband.

**Heterogeneous Networks**, a combined usage of broadcasting and broadband networks will enable broadcasters to offer a full range of services with overall maximum benefits for all stakeholders. Terrestrial broadcasting and broadband are both crucial platforms for media organizations, today and in the future.

## A. EU SPECTRUM REGULATION.

The Directive 2009/140/EC of the European Parliament and the Council, amending previous Directives 2002/21, common regulatory frame, 2002/19 on access and interconnections, 2002/20 on authorizations of electronic communications networks and services, asserts the competence of the Member States over the spectrum management (whereas 28), but the strategic planning, coordination and, where appropriate, harmonization, at Community level can help ensure deriving the full benefits of the Internal Market. To this end, legislative multi-annual radio spectrum policy programmes should be established following the Commission submission, taking the utmost account of the opinion of the RSPG, radio spectrum advisory group, to the European Parliament and the Council, to set out the policy orientations and objectives shaping the strategic planning and harmonization.

Hence, the set of criteria to justify an EC harmonization measure is a relevant piece of the radio spectrum policy. The Directive 2009/14 refers to the need for an IMPACT assessment before a specific harmonization measure on the costs and benefits of the measure, when following the procedure of the Radio Spectrum Decision, such as the realization of the economies of scale and the interoperability of services for the benefit of consumers, the effect on efficiency of the spectrum use, or the demands for harmonized use in the different parts of the EU (whereas 27).

Economic growth and social benefits are correlated to the proper management of Spectrum across the EU, since many of the activities which conform the performance of the economy or the matching of the needs of the citizens are based on the spectrum access. That aspect leads to the necessary articulation of the commercial and general interest objectives: radio frequencies should be considered a scarce public resource that has an important public and market value (whereas 24).

Those attributes of the spectrum management regarding the best functioning of the Economy and the Internal Market: fair competition, flexible allocation of frequencies, optimization of the spectrum usage, technical innovation, economies of scale at EU level, etc, express the spectrum market value, meanwhile those considerations attached to the general interest objectives are the factors associated to the spectrum public value. Moreover, taking into account the principal role of the Member States on managing the spectrum functions, as well as their particular capacity to define the general interest objectives within the respective national boundaries in accordance with Community law, it constitutes the base for the right balance upon the competences of the European Union and the Member States under the rules of the EU Treaty.

It is notable how the Telecom Directives put the emphasis on the general interest aspects laying on the Cultural Diversity and Media Pluralism, henceforth the significant economic and social importance of the Broadcasting networks and services as an universal way to allow the citizens to access to information or cultural programmes which are the fundamentals for social participation, even for the configuration of the national or group identity (whereas 25,36,48; article 9). Article 9.4.d of the Frame Directive says that measures requiring an ECN service to be provided in a specific frequency band shall be justified to fulfill a general interest objective as defined by Member States, explicitly quoting *"the promotion of cultural*

*and linguistic diversity and media pluralism, for example by the provision of radio and television broadcasting services”.*

On the other hand, new article 5.2, Authorization Directive, second paragraph, devoted to qualify the procedures to grant the rights of use of radio frequencies as open, objective, transparent, non-discriminatory and proportionate, single out the particular criteria and procedures applied to the granting of rights of use to providers of broadcasting content rights as an exception, with a view to pursue general interest objectives. Similar treatment is in place for the Commission adopting implementing measures to identify the appropriate bands for the transfer or the lease of rights to use radio frequencies, since those measures shall not cover the frequencies used for broadcasting. This specific status of the spectrum allocated for broadcasting should be taken very much into consideration to elaborate the RSPP, since the article 8.a.3 of the Framework Directive established that the Policy Programmes must be arranged in accordance with the Frame and the Specific Telecom Directives.

### **Questions 1-3**

The general delivery of broadband services at affordable prices represents a priority of the European Union policy, based on the principles of technology and service neutrality. There are many different means to provide broadband services wired and wireless, either ADSL, Satellite, Advanced Mobile, Cable TV, Optical Fiber, or terrestrial Hybrid Broadcast/Broadband systems. Spectrum needs for wireless broadband should be addresses taking into account all relevant frequency bands, technology developments and market conditions. The concept of Next Generation Network and Access is conceived to offer broadband content to the end users, seamless, likely based on the IP Internet protocol as the common layer: IP over everything; Everything over IP. High capacity optical fiber appears as the most promising way to convey the broadband signals, but the progress towards the NGN is probably going to be rooted in the optimal interoperation of the concurrent telecom and audiovisual networks, by means of the appropriate assessment of the available bandwidth over the diverse parts of the system.

The amount of spectrum already allocated to broadband is sufficient for the rollout of services. However, some frequency bands are not yet exploited to their full potential. This frequency bands should be used first. Any further spectrum allocations should only be considered if the actual demand for wireless broadband exceeds the capacity of the already allocated spectrum and after an exhaustive optimization of the actual use.

As an example, high power broadcasting should be a proper candidate to widen the provision of the broadband services, as demonstrated by the British development CANVAS aiming to bring Internet services to the TV screen, or the potential for the synergies between broadcasting and the broadband fixed, mobile or wireless solutions to achieve the best outcome for the final customer considering the legacy networks and reception devices and, particularly, the respective capacity of the access and transport subsystems.

Technical and commercial prospective concerning Networked Media points to the increasing social demand for innovative audiovisual services, based on High Resolution or 3D imaging, as well as interactive applications, thus in need of a very

high network capacity to bear those advanced contents, sometimes produced by the end users themselves, offering an adequate level of quality and continuity to all. Coverage, the most Economic solutions for the downlink and uplink paths, the Efficient use of Spectrum, or the average cost for the Universal reception, appear as significant inputs to consider for the appraisal of the impact of the diverse alternatives on the allocation of the scarce Spectrum.

#### **Question 4**

Last March 17, 2010, the Radio Spectrum Committee, RSC, acting as a regulatory committee, adopted a Commission Decision on harmonized technical conditions of use in the 790-862 frequency band for terrestrial systems capable of providing ECN services in the EU. After the prescribed scrutiny process by the European Parliament and the Council it is expected to get the Decision enacted by the end of April 2010. The Decision fixes the technical conditions to apply by Member States when they designate or make available the 800 MHz band for other than high power broadcasting networks That shall be done on a non-exclusive basis for terrestrial ECN services, Member States obliged to ensure the protection to systems in adjacent bands (in particular Broadcasting services below 790 MHz boundary).

That is not a mandatory ruling but a technical implementing measure under the Radio Spectrum Decision 676/2002. The Commission text relies on the technical parameters found by the ECC/CEPT, notably the CEPT Reports 30 and 31, on common and minimal least restrictive technical conditions as well as the frequency channelling arrangements in the 800 MHz band, which has been embedded into the ECC Decision 09-03 on harmonized conditions for MFCN, mobile fixed communications networks, to open the band to the UMTS and LTE mobile broadband modes, the LTE technology being the fundamental option to provide MBB services.

Radio Spectrum Policy Programme, RSPP, must integrate further actions related to the Member States obligations related to the protection of the broadcasting services just operating below the 790 MHz limit, by means of protection measures or protection clauses, several of them included in the referred CEPT reports to ensure the quality reception of DTT signals as well as to allow for the deployment of the innovative Digital TV services such as High Definition TV, 3DTV, MobileTV, etc. Those obligations should be part of the national planning and call for candidates concerning the 800 MHz spectrum assignment to the mobile operators, if launched.

The CEPT Reports analyze possible additional mitigation measures, involving the overhaul of hardware and software components, to assure the compatibility between mobile broadband and broadcasting. RSPP should guide on the necessary balance to have a consensual dialogue engaging the main operational, industrial or regulatory actors to reach an equitable approach on applying the mitigation techniques to ponder the additional costs incurred: the link budget of the reception devices might be altered, or the transmission parameters get modified.

Above all, any biased approach to put the burden on one particular concurrent system, i.e. broadcasting, specially when affecting to the economies of the Digital TV viewers, should be avoided. The efficient use of the spectrum would be pursued by all the providers of ECN services, otherwise the RSPP as the legal instrument to

make up the EU strategic planning and policy orientations should not be the right frame to recommend some specific technologies for the networks configuration, either broadcasting or mobile broadband, which must be defined at national level. In any case, the protection of the quality reception of DTT signals, wired or wireless, including the new advanced digital TV services, appears as a critical feature of the proper implementation of the digital dividend. A remark upon the deepening of the ongoing studies to prevent interferences by LTE signals on the CATV services would be opportune.

The European Commission has accomplished a set of important initiatives to harmonise the re-farming other frequency bands appropriate to deploy the mobile broadband networks: Decision 2009/766 on 900/1800 MHz band; Decision 2008/477 on 2500/2600 band; Decision 2008/411 on 3400/3800 MHz band; EC/RSC Mandate to CEPT on 2 GHz band to be completed by June 2010; European Parliament and Council Directive 2009/114 amending the GSM Directive 1987 to cancel the exclusive use of GSM services in that band. All the initiatives adopted in accordance with previous resolutions of ITU-Radio Regulations.

Although these Decisions referred to the UMTS standards and the tested compatibility of the GSM and UMTS channels, presumably the coexistence of UMTS/GSM signals and LTE signals in adjacent channels is going to be demonstrated subject to the normal protection measures. Hence, RSPP might impulse the removal of the technical and regulatory obstacles for the full usage of those bands to provide Mobile Broadband services, helping to reduce sharply the pressure upon the UHF band. Further, the listed bands are suitable to serve some relevant market segments such as broadband for rural areas or the indoor mobile broadband services. Since the preferred duplex configuration, 2x30 MHz in the 800 MHz band, could be inadequate to allocate all the mobile operators aiming to provide MBB/LTE services in the band, and expecting that in some EU countries or regions the sharing of MBB infrastructures would not be feasible or acceptable in commercial terms, the combination of several bands might become a convenient solution.

Focusing to the immediate future, the hypothetical fixing of a EU deadline to implement the digital dividend over the 800 MHz sub-band must consider some key factors, among others:

- Technical evolution of the LTE and Digital TV systems along the coming years.
- Successful completion of the digital switchover by 2012 to cover 100% of the population.
- Cumbersome and costly process to re-allocate the DTT UHF frequencies into the sub-band 470-790 MHz, observing the GE06 rules and the cross-borders coordination.
- Timely introduction of the advanced DTV services in the UHF band: HDTV, 3DTV, MobileTV, etc, as well as the PMSE or SAP/SAB services.

There are several significant consequences for broadcast business due to change of use of the 790-862 MHz band that it's necessary to consider:

- Migration of existing DTT services to spectrum below 790 MHz: implement clear and feasible migration strategies, at national level, to ensure continuation of existing DTT services with the minimum disruption for the

viewers. Each country in Europe has different circumstances. It's necessary to ensure sufficient and timely available funds to cover the cost of the migration.

- Protection of broadcasting services from mobile interferences in the long term.
- The general public needs to be properly informed about the interference issues whilst adequate mechanisms should be implemented for detection, reporting and swift resolution of interference incidents.

As a consequence of the implementation of the digital dividend further stress is placed on the necessary actions to re-arrange the 470-790 MHz band. Up to now, the common allocations at EU scale include, leaving apart Analog and Digital TV, Radio Astronomy systems in the 608-614 MHz sub-band, PMSE or SAP/SAB band as a secondary service, some radar applications using 470-494 MHz portion. The GE06 Agreement has identified several layers for each country in the band to get expanded due to the migration of DTT frequencies presently allocated in the 800 MHz plus the new spectrum needed to operate the advanced audiovisual signals: HDTV, 3DTV, etc. At the same time, the tight planning of the 800 MHz band implies that additional room should be prepared to reserve more frequencies to use by PMSE or SAP/SAB services now unfitted for the 800 MHz.

Previous reasoning leads to figure out the saturation of the 470-790 MHz band to be qualified as not eligible for any further primary services, namely mobile broadband systems, perspective which is reinforced by the availability of several alternative bands to serve mobile broadband needs efficiently, on the brink to culminate a process of the European Commission harmonization to be extended to LTE networks and services. On the other hand, CEPT group SE43 is undertaking the technical studies to introduce cognitive radio services within the so called "white spaces" spectrum likely emerging in the UHF band to operate secondary services under the basis of a non-interfering, non-protected operation. The outcome of CEPT reports should be indispensable to assess the real configuration of the 470-490 MHz band.

## **B. SOCIAL INCLUSION, SERVICES FOR CITIZENS**

### ***Questions 5-6***

As was commented, the European Union must promote the delivery of broadband services over any sort of means under the concept of a seamless Next Generation Network: optical fiber, broadcasting, satellite, mobile, CATV, ADSL, etc. Spectrum policy should be consistent with the objective of 100% coverage to prevent the emergence of other digital divide due to limited broadband coverage. Interoperability is a critical function to this end to permit a plethora of contribution and distribution services connecting different parts of NGN. Networked Media and modern Audiovisual Content should be an essential element of NGN, therefore spectrum policy would respond to the reaching of an optimal ratio between frequency resources, network capacity and coverage.

Terrestrial digital TV is an appropriate manner to get a high quality broadcast, including the advanced services HDTV, 3DTV, MobileTV, etc, provided a sufficient

amount of spectrum is allocated for that purpose. Avoiding interferences between those services sharing the same band or operating in adjacent bands must be enshrined as one of the principles of the EU spectrum policy. European Commission should incentive the research and innovation activities oriented to enhance the techniques to protect the high quality and universal reception of the advanced audiovisual content. The certainty upon the smooth operation of the systems based on the use of radio frequencies is one of the foundations to promote new investments targeting a massive market looking for the access to the cultural, informative or entertainment content.

Wireless broadband networks have inherent capacity constraints which makes them less suitable for the provision of audiovisual services to large audiences. However, the public will demand high quality audiovisual services and the capacity available from wireless broadband will be orders of magnitude too small. This is likely to remain an issue even after the most advanced wireless technologies (e.g. LTE and WiMAX) are implemented.

The EU broadband strategy should embrace all available technologies, including wireless broadband, on the basis of realistic technical and economic considerations. A feasible, efficient and sustainable solution for universal broadband will include a mixture of approaches and technologies. Large scale deployment of fiber optic networks is needed to meet the growing demands for capacity in the long term.

The combination of broadcasting and broadband networks will enable broadcasters to offer the full range of services with overall maximum benefits for all stakeholders. At the same time this would provide a possibility for the ISPs to off-load a significant part of the traffic from their broadband networks as it would be carried by broadcasting networks. The industry is already moving towards such a hybrid environment. These synergies, if further explored and developed, will facilitate social inclusion and will help bridging the digital divide.

## **Question 7**

Public Protection and Disaster Relief, PPDR, is a strategic public service which deserves a special reference in the upcoming RSPP. The demand of PPDR users for high speed data is increasing dramatically to satisfy the needs of preventing natural disasters or to protect the population. It is considered that the most sensible PPDR missions should be operated through dedicated networks, leaving the use of "networks to the public" for other more conventional missions. By means of the cooperation with ETSI and CEPT along the last years some priority bands for PPDR services has been identified as capable of conveying high speed PPDR data: 385.5-390/395-399.9 MHz; 410-430 MHz or 450-470 MHz, to match the ETSI assumption of contiguous blocks of 2x16 MHz for PPDR broadband services.

Broadband services will give first responders new tools to save lives, and allows first responders to communicate, inform, transmit video and images with one another in order to minimize the time to respond to the emergency / disaster. A three-pronged approach will allow:

- the speedy deployment
- operation and
- evolution of such network

An Administrative system must ensure that users of public safety broadband spectrum have the capacity and service they require for their network. To improve the capacity of PPDR networks during emergencies, it's necessary to give the public safety users the ability to roam on different national/transnational networks and potentially other bands. The PPDR community should have this ability both in areas where public safety broadband wireless networks are unavailable and where there is currently an operating public network but more capacity is required to respond effectively to an emergency.

For those reasons, it's necessary to ensure there is a mechanism in place to promote interoperability and operability between different emergency agencies across Europe in particular in cross border areas, this means European harmonization for PPDR broadband services.

Nevertheless, the acceleration of the urgent requirements for high speed broadband services would lead to make available higher frequency band for PPDR signals.

## **C. ENVIRONMENTAL AND HEALTH PROTECTION.**

### **Question 8**

The European project GALILEO is vital for the EU strategy on public regulated, commercial, safety of life services regarding the main navigation and positioning needs. On the other hand, Galileo must be coordinated with American GPS projects and other third party initiatives to reach the required global coordination. The spectrum used to transmit Space to Earth is focused on 1164-1215 MHz, 1260-1300 MHz, 1559-1591 MHz, which shall be duly protected from any interference source, but other higher frequencies operated by the uplink services connecting the Galileo control centres and ground stations should be protected or properly coordinated.

### **Question 9**

#### **Efficient use of energy:**

- The broadcast network industry contributes to significantly more efficient use of energy when old analogue transmitters are switched off and replaced by digital terrestrial television.
- In addition the consumer equipment manufacturers have contributed to very substantial energy savings by reducing stand-by power and operating power of modern TV receivers. The positive environmental effect occurs when old receivers are replaced by modern equipment, i.e. in connection with analogue switch-off.

**Common/Shared Infrastructure and environment:** Deployment of radio-equipment on common/shared infrastructure for broadband wireless systems also has clear benefits in minimising the environmental impact of network infrastructures.

## **D. SPACE EXPLORATION, TRANSPORT SAFETY**

### **Questions 11-12**

The spectrum allocated to Space activities include a significant chapter on the scientific use and the meteorological services: EESS, earth exploration satellite service; SRS, space research service; RAS, radio astronomy service; RLS, radiolocation service, etc, based on active and passive sensors and high speed transmission systems. The RSPG made up an Opinion on the subject, October 2006, which would be valid to guide the strategy and policy orientations to collect into the RSPG. Other outstanding institutions like ESA, European Space Agency, or EUMETSAT, the body in charge of meteorology, have developed reports and methodologies related to the Space needs on spectrum, including the frequencies used in GMES project, the European undertaking on Earth Observation.

## **E. EFFECTIVE COORDINATION AT INTERNATIONAL LEVEL AND NEGOTIATIONS WITH THIRD COUNTRIES.**

### **Questions 13-14**

RSPG might assess other strategic activities, some of them included in the Agenda of the WRC-12:

- The identification of additional spectrum for Mobile Satellite Services, MSS, as they correspond to pan-European services susceptible to have a European harmonization as it was the case to adopt a Decision on a common selection and authorization procedure in 2008 for MSS services. CEPT is elaborating on the European position on the point 1.25 of the WRC-12 Agenda to single out the spectrum between 4 and 16 GHz, although those bands below 6 GHz would be more accessible in the short term.
- To review and to organize the frequency bands applicable to the Digital Radio Broadcasting services which are an essential component of the Information Society. The evaluation of the L, S or UHF bands would be performed taking into account the introduction of the Digital Radio standards in Europe, DAB family, DBM, DRM, etc, to overcome the relative current impasse of this sector in Europe.
- The strategy of sustainable low carbon economy is the conceptual base to develop the systems known as Smart Grids or Smart Meters, related to the Energy networks and Energy consumption, or the most general frame of the Smart Cities integrating many subsystems, all of them founded on the use of two-way advanced communications networks, wired or wireless. When defining the functionalities of the Smart

Systems and Objects the protocols for wireless two-way communications are related to the known standards on cellular networks, WLAN, or SRD, short range devices, services, but a comprehensive view of the entire structure of the spectrum allocated to these functions, even the identification of additional bands, if necessary, would be a positive contribution to the advance of the Smart solutions.

## **F. REFARMING AND COMPETITION.**

### ***Questions 15-17***

Flexible allocation of spectrum relies heavily on the Authorizations Directive and the granting of individual rights of use, justified on the criteria of interference, quality, efficiency, which must be based on a sound technical analysis, apart the general interest objectives. Change of use of frequencies, or the secondary trading of spectrum, in coherence with the principles of technology and service neutrality, are regulated under the Telecom Directives. Innovative knowledge has been applied to allow for the co-channel or adjacent channel compatibility, CEPT Report 19 and ECC report 137, to define block edge masks to confine unwanted signals, or to use the aggregate power flux or the power spectral density to protect the "victim" services. Flexible management of spectrum depends on the scientific and engineering skills to elaborate in depth evaluations on these minimal technical conditions.

EU Competition rules, case law, would be adequate to curb any tendency to distort the markets by the hoarding of spectrum, including the competition situation in the downstream markets. Yet, some ex-ante provision for the selection of the bands apt to authorize secondary trading of spectrum, or to permit the change of use, fully respecting the rights of the incumbents, should be established to make room for ex-ante scrutiny of the regulatory authorities, in particular the Competition Authority. Technical and Competence criteria must be the fundamentals for the selection of the bands to retain for trading or change of use.

Software defined Radio and Cognitive Radio Devices, are intelligent systems able to alter by software the internal operational parameters, or to be aware of the electromagnetic situation around the device, so able to understand that environment to adapt its internal state to the changes of the surrounding spectrum. SDR and CRD are solutions just conceived to improve the reliability of the transmission channel, a feature to conciliate with the detection of the unused bands in time or geographical location. RSPG has adopted in February 2010 a Report on Cognitive Radio to underline some limitations on the business model of the activity, or on the critical concept of the unused spectrum. CRD must be efficient on the detection of transmission and reception channels, one special sensibility being the ability to detect the reception-only equipment belonging to a licensed operation, as an example the difficulties on the lean detection of the DVBT reception sets.

The design of the detection function, likely by a combination of sensing and geo-location technologies is of paramount importance to identify the convenient bands for the white spaces between allotments. Considering the complexity of the UHF band after implementing the digital dividend it would be requested the exploration

of the interleaved spectrum in other bands distinct of the UHF band to identify the white spaces suited for cognitive radio applications. It is remarkable how the RSPG Report when referring to the UHF band points to the differences between the regulatory situation in Europe and in United States as an element to be taken into account. From another perspective, the CEPT Correspondence Group on Cognitive Radio recommends a progressive introduction, step by step, of the cognitive radio functionalities, to select those bands at which this approach may be feasible.

The New Regulatory Framework (NRF) provides a quite comprehensive set of rules applying to spectrum trading. National authorities should be given enough time to implement all new measures accordingly to different national realities; more legal certainty is needed for network operators who are still involved in the digitization. Consequently, both RSPG and the European Commission should not go beyond the agreement reached by the European Parliament and the Council in December 2009.

In detail:

- Any market-based approach applied to spectrum management should have no impact on the quality of broadcasting services.
- In order to avoid spectrum interferences, spectrum trading should be limited to transfers between companies offering similar services; change of use should not be allowed.
- As stated in the NRF, any action taken by the European Commission to introduce spectrum trading in specific frequency band shall not cover frequencies currently used for broadcasting services. These decisions should be left to Member States.
- There is no need for any further harmonization of assignment conditions; also in this case the European Commission and the RSPG should not go beyond what has already been agreed in the NRF.

In several Member States, the introduction of spectrum trading brought a more efficient and flexible use of spectrum, beneficial both to consumers and society. Abertis telecom is really sceptical about the opportunity of any intervention that could re-introduce a higher level of rigidity; stifling most of the good results achieved so far. Any potential anticompetitive behaviour or spectrum hoarding is better addressed by general competition law; leaving to national authorities the possibility to intervene, when necessary, with ex-ante regulation.