

## **The EBU contribution to the Public Consultation / Call for Input in preparation for the Radio Spectrum Policy Programme**

The European Broadcasting Union<sup>1</sup> (EBU) welcomes the Commission's call for input in preparation for the Radio Spectrum Policy Programme and the opportunity to make a contribution to this process.

This EBU contribution focuses on those issues that are significant for public service broadcasters. Specific response is given to questions No. 1, 4, 5, 6, 13, and 14 of the Consultation paper. Additional information on terrestrial broadcasting is provided in the Annex.

### **Summary**

Public service broadcasters strongly believe in the potential that new communication technology and digital delivery platforms (i.e. digital broadcasting and broadband) have for Europe's citizens. The broadcasters' core task is to make audiovisual content available to the public with the best possible quality. Public service broadcasters support the improvements of the revised 'Telecom Package' as they endorse a dynamic approach to spectrum management, which recognizes Member States' competence in the field and respects cultural, audiovisual and media policies of each Member State. Spectrum is a scarce natural resource which is used to bring audiovisual content to a large majority of viewers and listeners, hence essential for making content available to as many EU citizens as possible and for 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.

**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 many countries 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.

**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.

---

<sup>1</sup> The EBU is the world's largest professional association of national broadcasters, whose Active Members are public service broadcasters in 56 countries corresponding to the ITU European Broadcasting Area, which includes all European countries, Central Asia, North Africa and the Middle East. Associate Members include broadcasters from Canada, the USA, Japan, Mexico, Brazil, India and Hong Kong, as well as many others.

The EBU's purpose is to serve and support the interests of its Members, promote cooperation between broadcasters and facilitate the exchange of audiovisual content. The EBU works to ensure that the crucial role of public service broadcasting, which is central to Members' activities, is recognised and taken into consideration by decision-makers.

The organization provides services to the broadcasting community at large, along with expertise specifically to Members on legal, technical and programming issues. It also conducts economic and market analyses and offers targeted training programmes. For more information about the EBU: [www.ebu.ch](http://www.ebu.ch)

**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 and frequency bands. It is neither a viable replacement for terrestrial broadcasting nor a universal alternative to fixed broadband. Wireless broadband in the frequency band 790-862 MHz could not be a solution for rural broadband even though this was the rationale for allocating this band to mobile services.

A **combined use 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.

***The Radio Spectrum Policy Programme should aim to:***

- respect diversity and different local, regional and national perspectives, in particular taking account of the public service remit of the EBU members;
- preserve the coverage integrity of the existing terrestrial broadcasting networks, including the protection from interference created by the new mobile networks in the 800 MHz band. In case of degradation of broadcasting services compensation to viewers and broadcasters should be foreseen.
- enable terrestrial broadcasting to remain a vibrant and viable platform, thus a competitive alternative to other delivery platforms;
- support future developments of terrestrial broadcasting while reflecting the complementary nature of broadband;
- provide clarity and regulatory certainty for the broadcasting eco-system;
- apply the same rigour for broadband as it is applied to broadcasting with respect to quality of service, universal access, economic and technical efficiency. This is also important regarding access to the 800 MHz band.
- take account of the legacy receiving equipment in order to protect the recent investments made by broadcasters and network operators in the process of the digital switch-over and by the viewers. The latter represents a significant part of the overall costs of the digital switch-over. This is particularly important when considering possible further efficiency gains on the terrestrial broadcasting platform.
- respect the provisions of the 'Telecom Package', e.g. the division of competencies between European and national levels as well as the specific rules that apply to spectrum used for broadcasting.

**EBU response to the specific questions raised in the Consultation document**

**Question 1**

Spectrum needs for wireless broadband should be addressed in a comprehensive manner, taking account all relevant frequency bands, technology developments and market conditions.

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. These 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.

See also the answer to Question 5 below.

## Question 4

### Part 1

The change of use of the 790-862 MHz band has significant consequence for broadcasters. The following issues should be given due consideration:

- *Migration of the existing DTT services to the spectrum below 790 MHz.*  
National administrations of the Member States should implement clear and feasible migration national strategies to ensure continuation of the existing DTT services with a minimum disruption for the viewers. This migration needs to take account of the specific national circumstances in each Member State and no mandatory target date should be imposed. The costs of this migration should neither be borne by the broadcasters nor by the viewers. The Commission should encourage national administrations to ensure sufficient and timely available funds to cover these costs.
- *Protection of broadcasting services from mobile interference in the long term*  
It cannot be assumed that broadcasting services would be sufficiently protected from interference by applying the minimum restrictive conditions alone, e.g. without additional mitigation techniques, where necessary. This was also recognized by the CEPT and reflected in the CEPT Report 30 in response to the second EC mandate on digital dividend. The Commission should encourage national administrations to apply additional measures, where necessary, to ensure protection of broadcasting services from mobile interference 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. The Commission should provide necessary guidance to the Member States.

### Part 2

The band 790-862 MHz is a public good and the use of this spectrum should be subject to such conditions that will protect and promote public interest. Therefore, access to this spectrum should be associated with coverage and service obligations, as well as with spectrum efficiency requirements.

## Question 5

Broadcasters have recognised broadband as a new delivery platform and are in favour of high-speed broadband access to everybody, everywhere. Media services are amongst the main drivers of broadband adoption by the public and this is likely to continue. However, in order to be suitable for media services, broadband networks need to fulfil similar requirements as broadcast networks, in particular:

- ability to provide steady and high quality of service to all users
- sufficiently high capacity
- technical and cost efficiency
- unrestricted access to services and content
- potential for innovation in technology, services and business approaches

Any broadband service that is unable to meet the above mentioned requirements would also not be supportive of the EU audiovisual policy objectives.

Different services and applications available on broadband networks have different requirements in terms of speed and quality of service. Media services such as linear-TV and video-on-demand generate large data traffic that only high-speed broadband networks can sustain with the required quality of service. Other applications (e.g. e-mail, web browsing) may be able to tolerate lower speed and quality of service. Therefore, it is necessary to establish the minimum service requirements for broadband networks.

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 fibre optic networks is needed to meet the growing demands for capacity in the long term.

Market forces alone are unlikely to ensure universal access to broadband and public intervention will be warranted. Innovative business models should be encouraged.

## **Question 6**

Public service broadcasters are present on all relevant delivery platforms. Their core task is to make audiovisual content available to the public with the best possible quality. A mixture of terrestrial, cable and satellite delivery is employed to fulfil the public service obligation of universal or nearly universal coverage. Broadband networks are increasingly important and are seen as the new delivery platform for broadcasting services.

### ***Terrestrial broadcasting***

The terrestrial broadcasting platform represents a *unique combination* of elements such as technical excellence and efficiency, favourable coverage and service characteristics, flexibility, market success and wide support across the industry as well as by the public in most European countries. It serves equally well public service broadcasters and commercial broadcasters as well as many other players in the value chain. As a result the terrestrial broadcasting platform generates significant social and economic benefits. It would be very difficult to replicate such a powerful mixture on another platform.

The terrestrial platform is cost efficient for the viewers because many households in Europe are equipped with receiving antenna installations. Any large-scale migration to another distribution platform would result in significant costs for the public. Furthermore, in many countries there is a deep-rooted expectation that free-to-air services are universally available via terrestrial networks.

Terrestrial broadcasting stimulates competition amongst the delivery platforms but can also be complementary to other platforms (e.g. in those areas where other platforms are not available). It is therefore in the interest of both the broadcasting industry and society as a whole that the terrestrial broadcasting platform remains attractive for viewers and listeners and a viable alternative to other delivery platforms.

Spectrum is crucial for vibrant and innovative terrestrial broadcasting. A sufficient amount of spectrum must be available now and in the future to accommodate the evolving needs of terrestrial broadcasting and to protect the investments made by broadcasters, network operators and the public. The needs of both public service and commercial broadcasting must be taken into account, while respecting the specific circumstances in each country. The UHF band is precious to broadcasters because this is the only spectrum available for terrestrial television to develop and innovate.

Any further reduction of the available spectrum for terrestrial broadcasting (i.e. beyond 800 MHz band) would have negative consequences for viewers and broadcasters in terms of increased interference levels, decreased coverage and the number of services, reduced possibility for future developments. Furthermore, it would almost certainly entail a significant migration to other platforms, hence incurring significant costs for the viewers. This would also reduce competition between delivery platforms.

Further information about terrestrial broadcasting is available in the Annex.

### ***Convergence of Broadcasting and Broadband***

Terrestrial broadcasting networks are optimized for the simultaneous delivery of content, such as radio, TV and supplementary data services, to very large audiences. They are typically designed for a specific coverage and the pre-defined quality of service and reception mode (e.g. roof-top fixed, mobile, portable indoor, handheld). Service quality and delivery costs are independent of the actual number of simultaneous viewers or listeners. In addition, terrestrial networks enable free-to-air or conditional access to services depending on the preference of the broadcasters.

Broadband enables a strategic evolution towards personalized, on-demand and interactive media services. For instance, IPTV networks are successful in a number of countries. However, most of today's broadband technologies (perhaps with the exception of fibre optic networks) suffer inherent capacity constraints which make them less suitable for those services that generate large data traffic and require high quality of service, such as media services. In particular, carrying linear-TV services on the 'open' Internet (as opposed to 'closed' IPTV networks) is very expensive and it is difficult to guarantee the required quality of service to all users. This is likely to remain an issue in the future, especially for wireless broadband networks.

If combined, 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.

### **Questions 13 and 14**

European preparations for WRCs are taking place within CEPT. This is a well established process that facilitates negotiations between countries in Europe as well as inter-regional negotiations, i.e. between CEPT and other world regions. All EU Member States are also members of CEPT and there is an MoU between the CEPT and the European Commission. The Commission and the Members States are therefore well placed to introduce the relevant EU policy priorities in the CEPT process. If agreed, these policy priorities will be reflected in the European Common Proposals to the WRC hence they would have a better chance to be accepted by the Conference. This process also enables the specific national requirements and needs to be duly taken into account.

Any additional, specific mandates attributed to the Commission must be defined and adopted in accordance with the provisions of the 'Telecom Package'.

## **Annex**

### **EBU Position Paper**

## **Terrestrial Broadcasting in Europe**

### **1 Introduction**

The terrestrial broadcasting platform is in many countries the primary means of delivering broadcasting services. It has an important role in fulfilling the universal coverage obligation of the EBU Members which is often part of their public service remit. In many countries coverage of 98% or more of the population and free-to-air access to services are mandatory.

Even in countries where alternative platforms (e.g. cable, satellite or broadband) hold a significant market share, terrestrial broadcasting is usually regarded, alongside these other platforms, as an essential, flexible and reliable way of delivering broadcasting content to a mass audience. This is facilitated by the fact that most of the households in Europe are equipped with suitable installations to receive free-to-air radio and television services, without any subscription.

Digital terrestrial television (DTT) is particularly successful with a steadily growing number of viewers and a rapid increase of the number of available channels. For example, at the end of 2009 it is estimated that more than 730 channels were being broadcast over DTT networks in the 29 countries (27 EU Member countries + two candidate countries, Croatia and Turkey). Of these more than 300 are local and regional channels. This compares with approximately 500 in April 2009<sup>2</sup>.

As with other communication sectors, terrestrial broadcasting networks are also currently being more and more deregulated and exposed to market forces. Telecom regulation in the EU is largely based on the principles of technology and service neutrality, promotes competition and market based approaches. Nevertheless, the EU regulations allow for application of specific rules to protect terrestrial broadcasting in accordance with general interest objectives, such as audiovisual and media policy.

The purpose of this position paper is to highlight the importance of terrestrial broadcasting in general, and its unique features in particular.

Many of the issues addressed in this document apply to both radio and television services delivered via the terrestrial platform, regardless of the technology and the frequency bands used. The distinction between radio and television is made where appropriate.

### **2 Terrestrial Broadcasting - What it is and what it does**

Terrestrial networks are optimised for the simultaneous delivery of content, such as radio, TV and supplementary data services, to very large audiences. They are typically designed to achieve a specific coverage for the pre-defined quality of service and reception mode (e.g. roof-top fixed, mobile, portable indoor, handheld).

Terrestrial networks enable free-to-air or conditional access to services depending on the preference of the broadcasters. Service quality and delivery costs are independent of the actual number of simultaneous viewers or listeners.

Digital terrestrial television in Europe is based on the very successful DVB standard. Frequency arrangements and international agreements are harmonised while the networks themselves are implemented according to national specifications.

DTT networks facilitate the introduction of new and innovative services on the terrestrial platform (e.g. HDTV, mobile TV, data services) as well as the flexibility to meet specific coverage and service requirements (e.g. regional and local programming).

---

<sup>2</sup> European Commission, DG Communication, Press release - 13 January 2010  
[http://www.obs.coe.int/about/oea/pr/mavise\\_end2009.html](http://www.obs.coe.int/about/oea/pr/mavise_end2009.html)

Today, terrestrial radio is still largely based on analogue FM networks, although digital radio services are increasingly available in Europe based on the DAB family of standards. Other digital systems such as DRM/DRM+ are also candidates for delivering digital radio services.

Terrestrial broadcasting spectrum is located in a frequency range that combines a number of particularly favourable features such as good propagation characteristics and the ability to penetrate deep into buildings. Moreover, the usage of digital broadcasting technologies allows for a more efficient exploitation of the available spectrum than analogue broadcasting. This enables broadcasters to provide an attractive offer of broadcasting services whilst at the same time having facilitated a digital dividend. Both propagation and efficient spectrum usage explain why terrestrial broadcasting networks are increasingly employed to serve large audiences in Europe. However, a combination of good coverage and capacity is also the reason why broadcasting spectrum attracts other users.

The terrestrial platform is cost efficient for the viewers because many households in Europe are equipped with suitable receiving antenna installations. This receiving infrastructure was historically built for analogue services but a large part of it can also be used for digital services. This enables the digital switch-over at a reasonable cost for the public whilst the costs of digital transmissions are lower compared to analogue. Any large-scale migration to another distribution platform would result in significant costs for the public and these cost implications must be addressed if such migration is to be considered.

In addition, in many countries there is a deep-rooted expectation that free-to-air services are universally available via terrestrial networks.

### **3 Why Terrestrial Broadcasting is Important**

Terrestrial broadcasting is one of the main distribution platforms for media services, it combines many beneficial features, even if some of them can also be found in other platforms.

#### ***Terrestrial broadcasting is an efficient delivery platform because***

- it is optimised for delivery of linear media services to mass audiences;
- of its high spectrum efficiency;
- it is a cost effective delivery mechanism for broadcasters and suitably equipped viewers;
- receiving equipment is easily available and low cost (accessibility for all); and
- minimal marginal costs for broadcasters (i.e. additional costs for reaching additional viewers).

#### ***Terrestrial broadcasting is a flexible delivery platform because***

- of its unique ability to serve any reception mode (roof-top fixed, mobile, portable indoor, handheld);
- of its flexibility to adjust coverage to the desired service area (nationwide but also regional or local coverage);
- it can offer a range of services from linear to on-demand; and
- it allows for free-to-air as well as conditional access.

#### ***Terrestrial broadcasting offers a defined and guaranteed quality of service (QoS)***

- continuously for all viewers and listeners
  - independent of the number of simultaneous listeners or viewers;
  - across the whole service area; and
- allows end-to-end control over QoS and user experience.

#### ***Terrestrial broadcasting represents a mass market platform, in particular***

- the digital terrestrial platform is certainly successful in many countries and is driving the digital switch-over in Europe where the number of viewers is steadily growing
- it is widely supported by manufacturers, network operators, broadcasters, regulators and the public;
- it constitutes a competitive alternative to other delivery platforms; and
- it enables development of broadcaster's radio and television brands and safeguards their market positions.

***Terrestrial broadcasting offers intrinsic additional value such as***

- delivering to secondary TV sets and other (non-broadcasting) consumer equipment;
- providing coverage in places where other platforms may not be available, for example
  - in cars,
  - in public places; and
  - in satellite shadow areas;
- leverage for implementation of national audiovisual policies;
- giving access to services for people with disabilities;
- not raising privacy issues;
- implementing provisions for content management and copy protection; and
- providing an essential and reliable channel for the authorities to inform the public in case of emergencies.

***Terrestrial broadcasting builds a framework allowing for new opportunities such as***

- the implementation of new broadcasting technologies;
- new services;
- promoting convergence and synergies with other platforms; and
- creating new business opportunities.

In addition, terrestrial networks are important for public service broadcasters because they are

- suitable for free to air delivery;
- providing complete or near-complete coverage at reasonable cost;
- based on open standards; and
- not controlled by gate keepers.

## **4 EBU Positions on Terrestrial Broadcasting in Europe**

The terrestrial broadcasting platform represents a *unique combination* of elements such as, technical excellence and efficiency, favourable coverage and service characteristics, flexibility, market success and wide support across the industry as well as by the public in most European countries. Furthermore it provides intrinsic additional value and stimulates a constant search for new opportunities. As a result the terrestrial broadcasting platform generates significant social and economic benefits.

Digitalization of the terrestrial networks is driving the analogue switch-off at a reasonable cost for viewers and broadcasters.

In many countries terrestrial broadcasting is the primary means of delivery of broadcasting services to the public. It serves equally well the public service broadcasters and the commercial broadcasters as well as a range of other players in the value chain.

The terrestrial platform is important for the broadcasting industry even in those markets that are dominated by other delivery platforms. It stimulates competition amongst the delivery platforms but can also be complementary to other platforms. It is therefore in the interest of both the broadcasting industry and society as a whole that the terrestrial broadcasting platform remains attractive for viewers and listeners and a viable alternative to other delivery platforms.

The terrestrial broadcasting platform is widely supported by manufacturers, network operators, broadcasters, regulators and the public. For this support to continue, regulatory clarity and certainty are required as they enable broadcasters and the associated industry, not forgetting the public, to make the right investments into future technology and services.

Radio frequency spectrum is an essential resource for terrestrial broadcasting. Sufficient spectrum must be available now and in the future to accommodate the evolving needs of terrestrial broadcasting and to protect the investments made by broadcasters, network operators and the public. The needs of both public service and commercial broadcasting must be taken into account.

Furthermore, the EU spectrum policy needs to take account of the specific circumstances in each country. Any further reduction of the available spectrum for terrestrial broadcasting would have

negative consequences for viewers and broadcasters (e.g. increased interference levels, decreased coverage and the number of services, reduced possibility for future developments) and is likely to entail a large scale migration to other platforms hence incurring significant costs for the viewers.

Terrestrial broadcasting networks are optimised for the delivery of linear media services to large audiences and they will continue to be important in delivering these services in the future.

In addition, there is a potential for synergies between the terrestrial and other delivery platforms, in particular broadband since it enables personalized on-demand and interactive media services. It is the combination of broadcasting and broadband networks that will enable broadcasters to offer the full range of services. These possibilities need to be further explored and developed.