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# COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

## The ITU World Radiocommunication Conference 2007 (WRC-07)

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**The ITU World Radiocommunication Conference 2007 (WRC-07)**

**(Text with EEA relevance)**

## 1. THE EUROPEAN AND GLOBAL DIMENSIONS OF SPECTRUM POLICY

The **radio spectrum** is a scarce and **valuable natural resource** that can have significant societal and economic impacts[1] for all sectors using wireless technologies, such as media, mobile communications, defence and aviation. Spectrum is an economically important input for the provision of public and commercial services based on wireless technology, for scientific research and for establishing international transport and communications networks[2].

Spectrum harmonisation in Europe is a key enabler for the completion of the **EU Single Market** in goods and services, and on a wider level can foster international commercial exchanges by removing technical barriers to trade. The challenges of managing the radio spectrum effectively are often better addressed by cooperation between countries. Together with the value of economic activities - total value of spectrum-dependent services in the EU is in excess of EUR 200 € billion, i.e. between 2 % and 2.5 % of annual European gross product – this explains why Europe as an economic area must give importance to international negotiations affecting radio spectrum usage.

In recent years, activities to develop a coherent European radio spectrum policy have gathered pace, and have supported common policy areas, such as the Information Society, Environment and Transport. With the **Radio Spectrum Decision**[3] (RSD), the Community has laid the basis for a regulatory and policy framework to ensure that the radio spectrum requirements of relevant Community policies are satisfied.

Within this framework, policy issues are addressed in a Community context in the Radio Spectrum Policy Group, (RSPG), an advisory body to the Commission. The relevant regulatory measures to harmonise the use of spectrum across the Community are undertaken in the Radio Spectrum Committee (**RSC**).

The coordination of spectrum at a global level is the responsibility of the International Telecommunications Union (**ITU**), a United Nations agency with the mission to maintain and extend international cooperation for the improvement and rational use of telecommunications of all kinds. Every three to four years, the ITU holds the World Radiocommunication

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[1]     A recent UK study estimates economic benefit of over € 1000 per capita in 2005 arising from the use of spectrum, based on consumer and producer surplus.

[2]     As highlighted by priority action 2 of the EU's Lisbon process, endorsed by the 2006 Spring European Council, which mentions explicitly the role of spectrum management in promoting knowledge and innovation.

[3]     Decision 676/2002/EC of the European Parliament and the Council of 7 March 2002.

Conference, a process aimed at adapting the **ITU Radio Regulations** (RR), the international treaty coordinating spectrum usage globally. The next **World Radiocommunication Conference** (WRC-07), the culmination of several years of preparatory work, will be held in Geneva from 22 October to 16 November 2007.

The Commission shall participate in WRC-07 as a non-voting sector member of ITU. In this capacity, the Commission shall endeavour to support those European common positions which are in line with and relevant to Community policies.

This Communication aims to inform the European Parliament and the Council about Community policies that could be affected by the outcome of WRC-07. It seeks to obtain their endorsement of the policy objectives to be achieved and of the position to be taken by Member States at the WRC-07 conference.

## 2. EUROPEAN PREPARATIONS FOR WRC-07

EU Member States negotiate in the ITU as independent members. In practice, they choose to develop their technical positions together within CEPT, an association of 47 national spectrum and telecom authorities, before negotiating with the rest of the world on the basis of consolidated European positions ("European Common Proposals"). Administrations participating in the CEPT process agree to support or at least not actively negotiate against such common positions.

While the CEPT is effective in developing the detailed European negotiating positions required for a technical-regulatory conference like WRC, Member States are bound by the obligations they have subscribed under the EC Treaty and by the *acquis communautaire*[4]. Therefore, the development of technical positions in CEPT needs to be complemented by considerations on the overall Community interests in the negotiations.

For this purpose, the RSD requires coordination of Community positions and the establishment of **common policy objectives** in WRC. Member States and the Community must develop common actions and closely cooperate during the whole negotiation process in order to safeguard the unity of the international representation of the Community.

In line with this commitment, the Commission ensures the coordination of policy approaches based on the adoption of Community policy objectives in advance of WRC and monitors Europe's involvement in the process. For this reason, it tasked the RSPG to develop an advisory Opinion on the Community objectives for WRC-07[5]. This activity was supported by a public consultation and two public workshops.

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[4]    Member States of the EU submit a joint declaration for inclusion in the Final Acts of a WRC, stating that they will apply the revision of the ITU RR adopted at the conference in accordance with their obligations under the EC Treaty.

[5]    Revised RSPG Opinion on WRC-07 of 14 February 2007.

The **overall objective** of the European Commission in the WRC process is to **ensure that decisions are taken that support Community policies** and initiatives.

Together with the Council Presidency, the Commission will endeavour to assist Member States in maintaining common negotiating positions during the conference. To this effect, Member States should support the positions identified by the Commission and endorsed by the Council and by the European Parliament, as well as those European Common Proposals which fulfil Community policy objectives. Any modifications of positions during the negotiations should take due account of underlying Community interests.

3.      RELEVANT COMMUNITY POLICIES FOR **WRC-07**

The WRC-07 agenda needs to be seen before the background of existing Community policies and principles. General EU objectives to be supported in the WRC include:

∉  the consolidation of the European **Single Market**;

∉  the removal of technical barriers to **international trade**;

∉  the promotion of **competition** between alternative infrastructure platforms;

∉  the development of **innovation**-friendly conditions for new technologies, including via open standards.

The following sectorial policies are also relevant in this respect:

**i2010 – European Information Society 2010**, is a new strategic framework laying out broad policy orientations. It promotes an open and competitive digital economy and emphasises ICT as a driver of inclusion and quality of life. A key element of the renewed Lisbon partnership for growth and jobs, i2010 will build towards an integrated approach to information society and audio-visual media policies in the EU. It includes the provision of a common EU regulatory framework for electronic communications, based on clear principles and obligations.

**Audiovisual Policy** underpins the transmission of social and cultural values, with fundamental public interests at stake, such as freedom of expression and the promotion of cultural diversity. Broadcasting services and networks are regulated by the general EC electronic communications framework, while a new Directive on content (Audiovisual Media Services) has been agreed.

**Research and Development** in the EU seeks to enhance the gains in competitiveness to be achieved by technological innovation by coordinating national and EU policies and encouraging the networking of research teams. The Community's RTD Framework programmes fund significant amounts of pre-competitive research.

**Environment** protection is a political priority for the EU in the context of climate change. European policy initiatives in this area include GMES (Global Monitoring for Environment and Security), which aims to enable decision makers in Europe to acquire the capacity for independent monitoring.

**Transport** policy aims to develop an integrated transport system in the European Community, inclusive of all transport modes. In order to further this policy, the implementation of a broad range of measures to develop integrated transport systems (road, airborne, rail and maritime) is being pursued

**Space** is an important strategic resource for the EU to implement some of its broader policy goals. Applications which the Community encourages in this context include satellite broadband communications to tackle the "digital divide", Earth observation and positioning systems.

In its Opinion on WRC-07, the RSPG confirmed the overall EU policy background and has advised the Commission on the positions Europe should take at the conference with regard to specific negotiating items. The Commission broadly agrees with the views of the RSPG. The following sections clarify specific positions in this context.

## 4. FUTURE MOBILE COMMUNICATIONS

An important focus of the conference will be in the area of future mobile communication systems[6]. A clear demand for additional spectrum to be identified globally for these systems has been demonstrated in the preparations for WRC-07[7].

In order to satisfy this additional demand, spectrum bands in frequencies both below and above the frequencies currently used by mobile systems in Europe are being considered.

The Commission believes the focus should be on identifying those frequency bands which can promote a **convergent** telecommunications environment in the long term.

### 4.1. HIGHER FREQUENCIES

Among the relevant candidate bands at higher frequencies than the spectrum currently available for mobile systems in Europe is the C-band (**3.4-4.2 GHz**). While this band is attractive for future mobile systems in Europe, it is being used as a backbone broadband network by satellite services, notably in developing countries. Technical sharing solutions accommodating mobile requirements, while adequately protecting satellite interests in the C-band at minimal cost for the satellite operators, will need to be sought as a matter of priority. A **prioritisation of sub-bands** for satellite and terrestrial services within the 3.4-4.2 GHz band would give them both adequate long-term guarantees of operating within this frequency band without undue interference. Satellite operations should retain a lasting priority in the 3.8 – 4.2 GHz sub-band.

### 4.2. THE UHF BAND

Due to its low frequency, the UHF broadcasting band (470 to 862 MHz) provides optimal signal propagation characteristics in terms of coverage and indoor penetration. Network

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[6]     WRC-07 will consider spectrum requirements for so-called "IMT" technology, which includes "IMT-2000", the family of mobile telephony standards recognised by ITU commonly known as "3G", as well as "IMT-Advanced", which includes radio interfaces supporting new capabilities of IMT-2000.

[7]     One of the main inputs into the ITU analysis was a study for the European Commission on spectrum requirements for Future Mobile Services.

infrastructures in the UHF band could thus be significantly more **cost-effective** than existing systems and could facilitate the deployment of mobile systems in sparsely-populated regions and highly-built urban areas.

The Commission has been consistently advocating that Europe should pursue the common goal of maximising the societal and economic potential of the "digital dividend", i.e. the spectrum bands potentially released by switchover to digital broadcasting. This means that the use of the UHF band should not be "frozen" by the present spectrum allocation situation but should be assessed in the light of the opportunities provided by new, efficient uses, keeping in mind general interest objectives[8].

Several Member States are already implementing national strategies to switch off analogue TV and to exploit the digital dividend. It is therefore urgent to explore any potential European added value. High-level policy declarations to this effect have been made recently both by the European Council[9] and by the European Parliament[10]. The Radio Spectrum Policy Group has also advised the Commission[11] to promote the advantages of introducing an appropriate degree of flexibility in the use of this band in order to cope with future technology breakthroughs as well as evolving market demands.

At the same time, equal regulatory treatment of all spectrum used for electronic communication services is essential to foster constructive industry cooperation, especially for converging mobile and multimedia services such as mobile TV and "triple play" offerings, without precluding duly justified exceptions to fulfil audiovisual policy requirements which are in the general interest.

An optimal use of the digital dividend requires actively removing undue regulatory barriers to the provision of innovative services in the UHF band. Currently, the ITU Radio Regulations grant broadcasting services a higher regulatory status (a "primary allocation")[12] in the UHF band in Europe[13]. Since additional spectrum for mobile services is being considered by WRC-07, a first step in the direction of more flexibility could be taken by upgrading the status of these services to the same status as broadcasting services at this conference.[14]

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8       See COM(2005) 461.

9       The Council of 14-15 December 2006 called for "*…a coordinated approach to the extent possible for the use of the spectrum capacity available as a result of digital switch-over…*".

10      The EP adopted a Resolution on 14 February 2007 in which it declared that "*…part of the dividend should be earmarked for technical harmonisation at European level*" and that it "*…encourages the Commission to take into account the reality of the spectrum dividend when defining the future direction of radio spectrum policy…*". It also called the Commission to ensure "*…that sufficient account is taken of the significance of broadcasting with regard to the freedom of opinion of individuals, and of diversity of opinion when transmission capacities are allocated at European level".*

11      RSPG Opinion on the Digital Dividend of 14 February 2007.

12      The ITU RR differentiate between "primary" and "secondary". Services with a secondary allocation must not cause harmful interference to, and must accept interference from, primary services. When there are multiple services within a frequency band with the same status, they all have equal rights, giving priority to earlier operation.

13      Formally in the so-called "ITU Region 1". The ITU RR divide the world in three different "regions". Region 1 includes Europe and Africa.

14      The GE06 Agreement signed in 2006 following the ITU RRC-06 conference provides a comprehensive regulatory framework for the protection of digital broadcasting from harmful interference. The Commission has also given CEPT a formal mandate on technical considerations regarding harmonisation options for the digital dividend.

### 4.3. PROTECTION OF EXISTING MOBILE SPECTRUM

Various satellite systems are being launched by countries outside Europe using parts of the band 2500 – 2690 MHz. In the light of the use of this spectrum in Europe in the near future for third-generation mobile networks, Europe will need to ensure its interests are safeguarded by an adequate protection and compatibility with satellite systems.

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**Community policy objectives**

It is economically important for the Community that the mobile industry continues having access to sufficient radio spectrum resources. Therefore:

– Part of the 3.4 to 4.2 GHz band should be made available for mobile services on a non-exclusive basis in Europe. Adequate solutions should be implemented for current satellite users in this band.

– An upgrade in the mobile service's status in the UHF band in Europe would increase flexibility and remove a potential constraint to the future optimal organisation of this band.

– Every effort should be made to minimise the risks of interference to IMT-2000 networks operating in the EU in the 2.5–2.69 GHz band from satellite services.

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### 5. OTHER PRIORITY ISSUES

### 5.1. SUPPORT FOR SCIENTIFIC USES OF SPECTRUM

The scientific use of radio spectrum has a considerable societal and economic value and needs to be supported[15]. Scientific uses of the spectrum include Earth Exploration satellites (EESS), meteorological satellites and space research systems, which support EU policies in the areas of environment, space, and RTD. The observation of natural or man-made physical phenomena can often only be undertaken in specific frequencies. The challenge is to safeguard the effective operation of scientific services without placing disproportionate constraints on other important sectors.

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**Community policy objectives**

EESS is an essential part of the GMES initiative, the European contribution to the Global Earth Observation System of Systems (GEOSS), important for the Community's Environment policy. Its continued protection from interference, as well as duly justified additional spectrum allocations for scientific services, are to be supported.

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### 5.2. REORGANISATION OF HF BANDS

High-frequency (HF) or "short-wave" spectrum bands which are essential to transmit radio signals over long distances have come under pressure from different users, in particular radio broadcasting, aeronautical, military and maritime mobile services. The in-depth consideration of this band taking place at WRC-07 may potentially impact relevant EU audiovisual and transport policies.

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[15] See the RSPG Report and Opinion on Scientific Use of Spectrum of 25 October 2006.

Short-wave broadcast radio is poised to embrace the benefits of **digital technology** and should be supported by sufficient spectrum capacity. New broadcasting services based on digital technologies such as DRM (Digital Radio Mondiale) technology offer the prospects of reviving long-distance radio and contribute to the dissemination of European culture and perspectives on the global scene. Further HF spectrum for broadcasting will assist the successful uptake of digital radio broadcasting technologies.

Key HF maritime services are also gradually switching over to digital transmission. WRC-07 should address the spectrum needs of this sector in a timely manner while ensuring appropriate continuity with critical analogue services.

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**Community policy objectives**

The switchover from analogue to digital technology of short-wave radio broadcasting and of maritime services should be assisted by accommodating their spectrum requirements in the review of the HF band due at WRC-07.

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### 5.3. FUTURE SPECTRUM NEEDS FOR AVIATION

The creation of a Single European Sky in the EU has the objective to optimise air traffic management and aviation safety, in order to satisfy all users of the airspace, this being a common asset to be managed collectively regardless of national borders. The Community policy interests related to aviation include creating additional flight capacity and increasing the efficiency for air traffic management (ATM). To achieve these objectives, there is a need for co-ordinated introduction of new and more spectrum-efficient technologies. The unavoidable situation of parallel operation of old and new aeronautical systems is recognised, but it should be kept to the minimum. Spectrum already allocated for aviation should also be used as efficiently as possible, consistent with safety considerations.

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**Community policy objectives**

Sufficient spectrum for aeronautical telemetry and air-to-ground voice and data communications would serve the objectives of the Single European Sky, keeping in mind the target of minimising the duration of parallel use of radio spectrum by old and new systems.

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### 5.4. SATELLITE COMMUNICATIONS

WRC-07 is to review some of the ITU rules pertaining to satellite systems. Satellite communications are recognised as an integral part of the Information Society and as one of the main pillars of the EU's space policy. Satellites are an important alternative platform for electronic communication services, providing capabilities for pan-European coverage of new services, including broadband data, thus helping bridge any 'digital divide' developing in the rural and remote areas of Europe.

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**Community policy objectives**

While the ITU principles of equitable access to spectrum and orbital resources are fundamental, it should be ensured that the global regulatory framework is supportive of concrete industrial initiatives to develop and operate viable satellite communication systems. Current satellite filing procedures ought to be simplified while existing satellite systems should be safeguarded within the satellite planning provisions in the ITU RR.

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## 6. MORE FLEXIBILITY IN THE GLOBAL SPECTRUM REGULATORY FRAMEWORK

The Commission has recently expressed its position[16] that spectrum ought to be regulated more flexibly, in line with an earlier RSPG Opinion on this subject[17].

WRC-07 provides an important opportunity to debate at the global level the **strategic direction** for the future of spectrum management, by considering the results of studies carried out by ITU on the effectiveness, appropriateness and impact of the RR with respect to technology evolution, with a view to identify options for improvements. An **agenda item at WRC-11** would be an appropriate focus for concrete progress on this issue.

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**Community policy objectives**

Community interests would be best served by a global framework which supports the removal of undue regulatory restrictions to the use of the radio spectrum, thereby enhancing its flexible and efficient use and introducing more competition between different radio infrastructures.

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## 7. AGENDA FOR THE NEXT CONFERENCE (WRC-11)

Each World Radiocommunication Conference establishes the agenda for the next conference. It is in the interest of the Community to support initiatives leading to future WRC conferences which relate directly to particular **EU policy requirements**.

The Commission has already identified the need for more flexibility in the global spectrum regulatory framework to be explicitly addressed by the WRC-11 conference (see section 6). In this context, the possibility of upgrading the status of the fixed service in the 470-862 MHz band should be on the agenda of WRC-11[18].

Most WRC decisions have an impact and applicability over a long time frame (often 10 to 20 years after the conference). It is therefore important to ensure that agendas are sufficiently "future-proofed" to be able to address the spectrum requirements of important policies and trends. EU policies which are relevant in this context and which are likely to increase in importance over this period include:

- **Sustainable development and climate change**: particular attention should be given to efforts undertaken to identify the spectrum requirements for future applications in this area and to ensure that they are anchored in a timely manner in the ITU process.

- **Pan-European networks and services,** in transport and in electronic communications: for instance, additional spectrum requirements for the next-generation European Air Traffic Management system[19] may be required, and the WRC-11 agenda ought to be able to cater for this eventuality, as well as for unmanned aerial vehicles and aeronautical satellite communications.

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[16] See COM(2007) 50.
[17] RSPG Opinion on WAPECS of 23 November 2005.
[18] Without pre-empting a primary allocation to the mobile service in this band being granted by WRC-07 in Region 1.
[19] See COM(2007) 103.

≠ **Overcoming "digital divides",** in particular for rural areas, for the elderly, the disabled and for other disadvantaged communities. Additional consideration about spectrum for satellite communications and for devices supporting medical and assistive technologies would be required .

In preparation of WRC-11, the Commission will work with all relevant stakeholders to identify the specific spectrum needs of such policy areas to be supported at the conference.

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**Community policy objectives**

The next WRC agenda in 2011 should be flexible enough to address any spectrum needs arising from important Community policies, such as the Single European Sky and Sustainable Development. Further progress on general spectrum flexibility would also require a specific agenda item on this topic.

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**8.** **CONCLUSION**

The European Parliament and the Council are called to endorse the Community objectives identified in this Communication working towards the successful implementation of relevant Community policies, and in particular actions by Member States at the conference, by:

≠ Accommodating the spectrum demands of mobile systems

– Identifying the 3.4 to 3.8 GHz frequency band for this purpose on an non-exclusive basis;

– Upgrading the regulatory status of the mobile service in the UHF band;

– Protecting the 2.6 GHz band for terrestrial third-generation mobile use;

≠ Ensuring the effective protection of Earth Exploration and other scientific services from harmful interference;

≠ Satisfying the necessary spectrum requirements for digital radio broadcasting and for maritime services in the HF band;

≠ Enhancing the regulatory framework to support genuine satellite systems;

≠ Providing sufficient spectrum for aeronautical telemetry and air-to-ground voice and data communications;

≠ Preparing actions supportive of Community policies in view of the next WRC Conference due in 2011.

Following WRC-07, the Commission will report on the **results of the conference** with regards to Community policies and on the preparation of the next conference due to take place in 2011. It will also begin without delay preparations to translate **relevant results of the** WRC-07 **conference in appropriate European Community measures**.