COMMISSION OF THE EUROPEAN COMMUNITIES

COMMUNICATION FROM THE COMMISSION
TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

Radio frequency requirements for Community policies in the context of

THE WORLD RADIOCOMMUNICATIONS CONFERENCE 1999

(WRC-99)

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SUMMARY

A vast array of radiocommunications techniques and services has become vital to the European economy, its consumers, and the safety of people. They provide essential links in public and private telecommunications networks; they assure the efficiency and safety of maritime, aeronautical, and land transportation; they provide the information and entertainment services of broadcasting; they enable weather forecast; they help to fight pollution and to perform many other functions needed by modern society. *These radiocommunications services have in common that they compete for the use of the scarce radio spectrum resource.*

Decisions as to which types of services may make use of which frequencies, and under what conditions, are taken at *World Radiocommunications Conferences* (WRCs) which are organised under the auspices of the International Telecommunication Union (ITU), and where all 15 Member States of the European Union participate. The last WRC was held in 1997 and made important decisions on mobile and satellite communications, broadcasting, and satellite radionavigation and aeronautical services. The next WRC will be held in 1999.

The context for WRCs has changed considerably from being a primarily technical matter, to one where economic and political forces, driven by liberalisation, competition, globalisation, and technological innovation in the communications and information sectors, have become decisive for the frequency allocation decisions to be taken. Although WRCs allocate certain parts of the spectrum for the provision of specific services and do not decide which companies may use which frequencies, the strong lobby power of consortia and interest groups, backed by their administrations, has led to the impression that individual interests at WRCs partition the frequency spectrum along commercial interests. In addition to the increased impact of economic forces, the technical complexity of the subject matters as well as the potential implications of frequency allocation decisions on the global market structure have resulted in the situation where WRCs make provisional decisions, pending further clarification on the technical implications and subject to further national and regional consultations with all interested parties with the aim to arrive at a political endorsement of the objectives to be achieved and positions to be taken.

At Community level, the implementation of a number of common policies depends on the availability of radio spectrum, such as in the case of mobile and satellite communications, broadcasting, aeronautical and satellite radionavigation services, and Earth observation. The political decision-making context for such policies differ, however, for instance when considering the completion of the Internal Market, international co-operation and market access issues, RTD policy objectives. As a consequence, frequency implications of the mentioned Community policies are addressed separately at the operational level and not as part of a coherent European long-term strategic spectrum plan agreed at the political level. *In the absence of political priorities with respect to the availability of spectrum for the implementation of Community policies, technical experts themselves need to balance commercial and public interests in the allocation of radio frequencies.*

The development and negotiation of European positions for WRCs is done by the Member States at the national level and in the framework of the CEPT (European

Conference of Postal and Telecommunications administrations). CEPT comprises 43 European countries and therefore potentially leads to harmonised frequency allocations beyond the Community borders, provided that the harmonisation measures are appropriately implemented. Furthermore, since each ITU/WRC member country has one vote, agreement at CEPT level would create strong bargaining and voting power for Europe vis-à-vis third regions and countries.

Member States do not support a role of the Community in terms of developing common Community positions or negotiating at WRCs on their behalf. *In view of the evolution of the WRC context, however, there is a growing need to support the WRC positions in the wider political context, taking into account that diverging views among WRC negotiating parties as regards frequency harmonisation are normally based on a diverging political appreciation for radiocommunications systems of commercial and general interest.* This becomes evident, for instance, in case Europe requests further frequencies for the development of third generation mobile communications (UMTS) which other countries may oppose due to the national focus on satellite communications (e.g. US) or due to difficulties with the phasing out or relocation of existing systems (e.g. developing countries). Spectrum for aeronautical and radionavigation services may be needed to satisfy demand for both commercial and public interest applications, depending on national requirements and priorities, and taking into account claims for the same spectrum by commercial mobile satellite operators. *The effectiveness of politically backing up the technical positions worked out is therefore essential to achieve good results at WRC and for an appropriate technical and political representation of Community interests in contacts with the main trading partners.* The Community, as represented by the Commission, could be instrumental in this regard, provided the Member States themselves politically support the WRC positions worked out.

The co-ordination of positions of the Member States in CEPT for the WRCs in 1995 and 1997 generally led to results which allow for the further development of Europe's radiocommunications market. For WRC-97, the 43 CEPT countries signed about 300 so-called European Common Proposals (ECPs) for the 50 agenda items to be dealt with, most of which were adopted by the conference. However, notwithstanding the overall satisfactory adherence of the European countries to the common European positions presented at WRC-97, *very controversial issues could not be settled on the basis of technical positions only, as was the case for instance with respect to satellite broadband services and aeronautical and satellite-radionavigation services.* Due to the complexity of these issues in economic and strategic terms, some Member States had either not signed the relevant ECP or were instructed by their capitals to withdrew their support during the negotiations themselves. *In the absence of a priori instructions from political instances as to the objectives to be achieved at the technical level, Europe's negotiating position may be seriously undermined.*

The forthcoming WRC-99 will once more deal with frequency requirements for the implementation of Community policies on satellite and mobile communications, broadcasting, aeronautical and satellite radionavigation services, and Earth observation. The Community policy framework for satellite and mobile communications, which includes close consultation of and co-ordination with industry and representative organisations, allows for a rather precise translation of respective Community policies into frequency requirements to be negotiated at WRCs. However, in case of the other mentioned Community policies, such *consultation and co-*

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ordination is not always apparent and may result in a situation where commercial telecommunications interests have a stronger competitive position in obtaining frequencies.

In accordance with the Council Conclusions on 22 September 1997, which were adopted on the basis of the Commission Communication to the European Parliament and the Council on the WRC-97, *the European Commission will be involved in the WRC-99 process in pursuance of the following objectives*:

1. Ensure compliance of the European positions for WRC with relevant Community policies prior to and at the conference

2. Encourage European industry to propose radiocommunications initiatives and involve industry and other relevant actors and organisations in the development of European positions on, inter alia, mobile and satellite communications, broadcasting, aeronautical services, radio navigation, and Earth observation

3. Maintain and establish contacts with third countries and regions in order to promote European objectives and to achieve a certain level of approximation of proposals before the start of the conference

4. Strengthen the negotiating position of Europe at WRC and achieve results which are to the benefit of the European economy and its citizens

It is necessary, however, to address these objectives in a general review of spectrum policy in the Community where *frequency requirements for Community policies are addressed as part of a coherent European long-term strategic spectrum plan which appropriately balances commercial and general interests, which is based on wide consultations with all interested parties, which is endorsed at political level and which allows for the production of European positions for WRCs.* The Commission intends to carry out a wide consultation with all parties involved to address this matter and to report to the European Parliament and Council about the efficiency of the current arrangements for spectrum policy in Europe and the possible need for Community initiatives in this area, including, as regards Community representation at WRC.

This Communication has been prepared in order to:

- initiate a political discussion in the European Parliament and Council on the Community interests at stake at WRCs, with particular regard to WRC-99 in the light of the results of WRC-97, and to ensure appropriate involvement of all interested parties in the preparatory process;

- provide information on relevant Community policies which depend on frequency availability, with which WRC decisions should comply, and which therefore should be taken into account in the elaboration of positions for WRC-99;

- explain the role of the Community and the European Commission in the WRC process; and

- point to the need to address WRC issues at the political level in the context of a long-term strategic spectrum plan to be established

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1. INTRODUCTION

A vast array of radiocommunications techniques and services has become vital to the European economy and safety of people and given the increasing dependence of society on the provision of information and communication by wireless means, **spectrum matters are becoming critical from an economic, political, consumer, and public welfare point of view.**

The planning of the usage of radio spectrum by services (such as mobile and satellite telephony and broadcasting) at a national, Community and global level depends on the decisions taken at World Radiocommunications Conferences (WRCs).[1] At WRCs, the 186 member countries of the International Telecommunication Union (ITU), including the 15 Member States of the European Union (EU), decide whether, how and under what conditions frequency requirements for existing and planned radiocommunications systems can be accommodated.[2]

In view of the ever increasing trends towards globalisation, liberalisation, competition, and technological innovation in the communications and information sectors, negotiations on spectrum requirements in the context of WRCs gain in importance in commercial and political terms. The introduction of full liberalisation of telecommunications services and infrastructure from January 1998 is widening the choice of services. At the same time, however, demand for spectrum is increasing and **political choices need to be made as to the fair and equal distribution of this scarce resource among competing interests.** In addition, frequencies and orbital slots are limited resources whose allocation and use may, in some cases, need to be considered under competition rules. In the race towards the establishment of the Information Society, access to and use of globally harmonised frequency bands can therefore present a key competitive advantage.

Decisions taken at previous WRCs enabled for instance the development of mobile telephony (GSM), satellite telephony (S-PCS), and direct-to-home television. Most recently, the WRC-97 opened up spectrum for the provision of satellite broadband multi-media services. **The forthcoming WRC in 1999 will take further decisions on spectrum requirements for the mass-market communications systems of the 21ˢᵗ Century.** Such systems, e.g. satellite broadband (as proposed by Teledesic and SkyBridge for example) and terrestrial mobile broadband (UMTS – Universal Mobile Telecommunications System), will be the building blocks of the emerging Information Society. In addition to the spectrum requirements of such global, mass-market services, **WRC-99 will also address the spectrum requirements of services which are not directly linked to commercial interests but are important for political, cultural, consumer protection, safety, socio-economic or strategic reasons, such as radionavigation-satellite, aeronautical mobile, and maritime mobile services, and Earth observation.**

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[1]   See ANNEX 1 for a Glossary.

[2]   Detailed background information on spectrum management and WRCs can be found in the Communication from the Commission to the European Parliament and the Council on the World Radiocommunications Conference 1997 (WRC-97), COM(97)304 final, 18.06.97. It should be underlined that WRCs decide upon the availability of spectrum for the provision of *services* and not on whom is allowed to use the spectrum made available; this remains a matter for national decision.

As a common procedure, the previous radio conference in 1997 (WRC-97) adopted a Resolution on the agenda for the forthcoming conference in 1999 (WRC-99).[3] It comprises over 40 separate issues and includes issues of particular relevance in a Community context, such as terrestrial mobile communications, radionavigation-satellite, aeronautical mobile, and maritime mobile services, mobile satellite and fixed satellite services, broadcasting, and Earth observation.

This Communication follows-up on the Council Conclusions which were adopted-on 22 September 1997 on the basis of the Commission Communication on the World Radiocommunications Conference 1997 of 18 June 1997.[4] These Council Conclusions invite the Commission to ensure that Community interests are taken into account in the production of European positions for WRCs, to carry out consultations with interested parties with the aim to identify frequency requirements for agreed Community policies and industrial needs, and to participate in bilateral contacts with third countries and regions with the aim to assess the respective positions prior to the conference.

This Communication outlines the context for WRCs and assesses the results of WRC-97 from a Community point of view. Furthermore, it identifies issues at the agenda of WRC-99 which are of particular relevance in a Community context. Finally, the Communication elaborates on the preparatory process initiated in view of WRC-99 with particular emphasis on the activities the European Commission intends to carry out in this context.

The overall objective of the present Communication and Community action with regard to WRCs and WRC-99 particularly is to ensure that WRC decisions comply with relevant Community policies and that the positions to be worked out for WRCs appropriately balance commercial and general interests and are endorsed by political instances.

2. WORLD RADIOCOMMUNICATIONS CONFERENCES AND EUROPE

2.1 The changing context of WRC negotiations

The preparations for and negotiations at WRCs have intensified over the years in terms of the number of negotiating issues, the period needed to reach agreement, and the level of resources that administrations and industry dedicate to satisfy frequency requirements in the international context. At the WRC-97, for example, about 1800 representatives of 131 ITU member countries and international organisations needed four weeks of around-the-clock and across-the board negotiations to reach agreement on a large number of issues. Although political instances still regard WRC negotiations as a mainly technical matter, experience demonstrates that the commercial and political influence on the negotiations can be decisive.

The introduction of economic considerations in frequency allocation decisions becomes more apparent and is believed to contribute to a more efficient use of radio

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3   Resolution GTPLEN1-3 (WRC-97): Agenda for the 1999 World Radiocommunications Conference, ITU, Final Acts of the WRC-97. Geneva, 1997.

4   Council Conclusions on the Commission Communication on the WRC-97, September 1997.

frequencies. In fact, **certain trends can be observed in the context of WRC negotiations which alter the former technical nature of WRCs and have resulted in increased attention to commercial and political considerations in frequency allocation decisions:**

- *Regionalisation of positions*

    In order to gain support at WRCs for national positions, countries increasingly co-ordinate and negotiate positions for WRCs in the context of regional telecommunications organisations, such as CEPT (Europe), CITEL (Americas), APT (Asia-Pacific Telecommunity), Arab and African groupings.[5]

- *Involvement of commercial interests*

    Industry is increasingly involved in the WRC process, both as regards international lobbying and marketing prior to, and at conferences, as well in terms of representation in, (and even financing of) national delegations to WRCs.

- *WRC decisions enable technological innovations*

    Timely WRC decisions on the availability of frequencies are required in order to facilitate system development and the raising of capital investments. For example, even though satellite and mobile broadband systems are not expected to be implemented before 2002, decisions on the availability of spectrum are required now. Debates at WRCs on frequency requirements for new radio systems are increasingly based on technological assumptions and projected market forecasts and are at times used to consolidate technological leadership of specific players.

- *WRC decisions and impact on regulatory policy*

    WRC decisions have implications for regulatory policy. For example, the amount of spectrum to be made available by a WRC for a certain type of service has direct consequences on the number of licenses to be issued for the provision of that type of service at national and international level and therefore impacts on general competition considerations. Preference should therefore be given to solutions enabling the highest possible number of licenses to be issued for the concerned services.

- *Involvement of political instances*

    The extent with which national delegations are instructed by political authorities to achieve satisfactory results on particular issues is increasing and political instances occasionally use diplomatic means in parallel to WRC to achieve support for national positions at WRCs.

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[5] Although WRCs aim to reach decisions based on consensus and avoid voting on issues, the knowledge that Europe has up to 43 votes is an encouragement for other regions to reach a compromise that will be satisfying for Europe. WRC-97 acknowledged the trend towards regionalisation of positions and adopted Resolution PLEN-2/WRC-97 on regional preparations for World Radio Conferences. ITU, Final Acts of the WRC-97, Geneva 1997.

- *Across-the-board negotiations*

  Due to the large number of issues to be considered in the limited time available, the conclusion of compromises and package deals between the main negotiating parties and their industries is common practice nowadays, and this is not only done on the basis of technical considerations but also comprises political and commercial dimensions.

- *Reconciling interests of developed and developing nations*

  The need for frequencies for innovative radiocommunications systems, primarily developed by industrialised countries, may seriously impact on frequency availability for existing systems, and this is particularly affecting developing countries.

- *Relation between national administrations and commercial interests*

  The increased involvement of commercial interests in the WRC process may lead to conflicts of interests between national administrations, which aim to achieve across-the-board results, and individual companies and (international) organisations which pursue sector-specific objectives. Furthermore, commercial interests in the radiocommunications sector are pursuing global, rather than national solutions.

- *The WRC process is a continuing process*

  Due to the importance and complexity of the issues to be considered, many decisions taken at WRCs are provisional or postponed to a forthcoming conference. This may hamper technical innovations by introducing significant regulatory delays, but allows, however, for a double-checking with political instances at home before firm positions and decisions can be taken. The WRC process requires a continuous involvement and considerable resources of administrations, industry, and political instances.

Technological developments, the liberalisation of telecommunications markets, and the general globalisation of the world economy have changed the way in which WRC decisions on the allocation of radio frequencies are reached. Whereas decisions at WRCs were previously mainly negotiated by national experts acting on behalf of a limited number of national spectrum users, such as the military, national broadcasters, and a limited telecommunications community composed of public telecommunications operators, WRC negotiations are nowadays heavily influenced by commercial interests of a large range of economic actors operating on a world-wide scale and continuously developing new types of services.

The working out of European positions cannot be done in isolation but need to take into account the political, economic, and regulatory situation in other parts of the world. Whereas the terrestrial mobile communications market in Europe is developing at a rapid pace and therefore additional frequencies are needed, other parts of the world may have different requirements, e.g. in the area of satellite communications (as in the case of the US). Also, the existing mechanisms may be insufficient to phase-out or relocate existing systems to other parts of the radio spectrum in time (as in the case of developing countries). Such conflicting interests become apparent at WRC in terms of frequency requirements but can be detected, however, at an earlier

stage through an appropriate examination of the requirements of the respective markets.

The trends in WRC negotiations noted above have implications for the technical issues to be considered at WRCs but cannot be solved on the basis of technical considerations only. **The increased need for co-ordination between commercial and public uses of spectrum, for co-ordination within and between regions with diverging interests, and the political and regulatory implications of the decisions to be taken, should lead to an increase of political attention to be given to the issues at stake at WRCs.** In the current climate of WRC negotiations, only the combined strengths of frequency authorities and political instances will lead to satisfactory results on frequency allocations which will serve the public interest and the European economy.

2.2 Results of WRC-97

The results of WRC-97 are generally assessed as positive for the further development of the radiocommunications sector in Europe. **From a Community point of view, the most relevant results of WRC-97 are the following:**

- *Satellite broadband services*

    WRC-97 decided to make spectrum available for the provision of satellite broadband services, such as proposed by SkyBridge, Teledesic, Celestri, WEST. Whereas the technical decisions taken on this issue by WRC-95 were not to the benefit of global competition, WRC-97 changed its approach. After difficult negotiations, agreement was firstly reached on the principle that global and equal competition in the provision of satellite broadband services is essential for economic and political reasons before appropriate technical solutions were worked out. **The WRC discussions on satellite broadband services underline the need for political guidance to be given in órder for acceptable technical compromises to be reached.**

    The result complies with the new concept proposed by Europe to overcome the difficulties experienced in co-ordinating different satellite and terrestrial systems and comprises the setting of limits for the interference that can be accepted into one type of network from the other. The principal concept agreed upon would allow for equal access to spectrum by competing systems, facilitate competition in the provision of satellite broadband services at global level, and diminish the need for a segmentation of frequency bands. The issue will be re-visited at
    - WRC-99.

- *Terrestrial mobile communications/UMTS*

    One of the main of objectives of Europe for WRC-97 was to ensure that a forthcoming conference would deal with spectrum requirements for the development of Europe's future 3rd generation mobile communications systems, known as UMTS (Universal Mobile Telecommunications System). It was agreed that WRC-99 should deal with this issue.

• *Aeronautical and radionavigation services*

> WRC-97 addressed the issue whether spectrum allocated for the provision of aeronautical and satellite-radionavigation services should be opened up for shared use with other services, such as mobile telephony by satellite. While the Conference could agree in principle as far as bands allocated to mobile aeronautical services were concerned, it could not for those dedicated to radionavigation. In both cases it decided to put again these questions on the agenda of WRC-99 on the basis of additional technical studies to be undertaken and consultations to be carried out with the actors of the sector (transport and aviation communities) and political instances. WRC-99 will furthermore consider additional frequency allocations to the satellite-radionavigation service.

WRC-97 also made decisions as regards the planning of the broadcast satellite service (Appendices 30/30A of the ITU Radio Regulations), Earth observation, and other issues.

2.3 Assessment of the European position at WRC-97

43 European countries, including the 15 EU Member States, co-ordinate and negotiate positions for WRCs in the context of the Conference Preparatory Group (CPG) of CEPT. All 43 CPG member countries, including the EU Member States, had put their signature to some or all of the 300 European Common Proposals (ECPs) adopted. The CPG had appointed co-ordinators to closely follow the negotiations on specific agenda items and to advise the 43 CEPT administrations on the line to be taken. Also, a number of Europeans were positioned in the organisational structure of the conference as (vice-) chairmen. However, **the co-ordination of positions among 43 countries remained difficult, particularly where the technical positions worked out could not be maintained for economic, political, or strategic reasons.**

For WRC-97, for example, an ECP was adopted which would allow shared use of frequencies by mobile-satellite and aeronautical services under certain conditions. However, as a result of insufficient agreement and political support at the national level, certain Member States did not sign the proposal or had to withdraw their support at the conference itself. The issue was finally postponed to WRC-99.

The formal role of the European Commission at the WRC-97 was that of observer. Furthermore, and where appropriate from a Community point of view, the Commission provided political support to the CEPT in its role as counsellor.

The fact that the Commission was involved in the negotiation process within the limits set by Council does not mean, however, that agreements made at WRC and consortia putting forward frequency allocation proposals are automatically in line with Community interests, for instance as regards the competition rules, which may require separate checks.

In accordance with the Council Conclusions of 3 February 1992[6], the Luxembourg Presidency submitted on behalf of the Community a joint Declaration for inclusion in

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[6] Council Conclusions on the procedures to be followed at the World Administrative Radio Conference (WARC 1992), 3.2.1992.

the Final Acts which stipulates that the delegations of the Member States of the EU declare that they will apply the revision of the Radio Regulations adopted at the conference in accordance with their obligations under the Treaty establishing the European Economic Community. This should allow for an appropriate assessment to be made at Community level as regards the compatibility of WRC decisions and their implementation at Community level as set against the Treaty and in particular its competition rules. However, **in view of the complexity of the issues dealt with at WRC, a more forward looking approach may be required where possible consequences of WRC decisions on Community policies are assessed on an** *a priori* **basis.**

In particular with respect to the issues of satellite broadband services, UMTS, and aeronautical and satellite-radionavigation services there was a clear need for co-operation between the Commission and the CPG at political and technical level in order to achieve results which would be acceptable from a Community point of view. The combination of strengths should be further consolidated in view of the trends in the negotiations described above, particularly as regards the need to **ensure that European positions are negotiated which comply with Community interests and which are endorsed by relevant political instances and affected parties.**

WRC-97 adopted nearly all ECPs presented by the CPG, although it should be noted that certain provisional decisions by WRC-97 need to be reviewed by WRC-99. The European regional co-ordination in CEPT is generally appreciated by other regions within the WRC structure and has already triggered reflections on their side as to how to better prepare themselves for WRC-99, notably by engaging an early preparatory dialogue with European instances in charge.

Europe had a rather strong negotiating position at WRC-97 but it **should be reviewed whether the current arrangements will hold in the context of the evolving nature of WRC negotiations** noted above, in particular as regards the necessity of political support for the positions to be negotiated prior to and during WRC as well as the need to ensure that the co-ordination among European countries and the adherence to the positions is maintained.

3. WRC-99 IN THE CONTEXT OF RELEVANT COMMUNITY POLICIES

The agenda for WRC-99 comprises about 40 separate items, grouped under detailed technical headings familiar to frequency managers only. However, most of the apparent technical matters to be considered at WRC-99 in fact constitute important operational conditions for the implementation of Community policies. Other items are only indirectly linked to Community policies, but are nevertheless of importance to individual Member States, companies, or organisations.[7] The WRC-99 agenda includes many issues for which no definitive agreement could be established at WRC-97. This is due to the fact that the issues dealt with at WRCs are technically so complex that, prior to taking definitive decisions, technical studies are needed and further consultation with political instances and affected market players is required.

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[7] In addition, certain other Community policies, such as concerns RTD, competition, and trade, have a bearing on frequencies. For further details, see footnote 2.

Under these conditions, all interested parties, including (potential) spectrum users, equipment manufacturers, consumers, regulatory authorities, and political instances should take note at an early stage of the WRC-99 agenda, assess to which extent their respective activities may be affected by the decisions to be taken, and take part in the process for the establishment of common European positions for WRC-99.

3.1 Terrestrial mobile communications/ UMTS

The amount of spectrum to be made available by WRC-99 for UMTS will directly affect growth prospects for multi-media mobile communications in Europe and elsewhere and therefore greatly affects the competitive position of Europe's mobile communications industry at global markets. However, potential conflicts exist with those countries which focus more on, e.g., satellite communications and which compete for access to the same frequencies as those identified for UMTS.

Under the ITU terminology IMT-2000 (International Mobile Telecommunications), WRC-99 will deal with additional frequency allocations for this type of radiocommunications and study the technical characteristics which should facilitate world-wide roaming. Building on its success in mobile telephony (GSM, DCS-1800), Europe seeks to secure frequency availability for third generation mobile systems, which has become to be known in Europe as UMTS (Universal Mobile Telecommunications System).

Estimates suggest that the annual market revenues in Europe for cellular mobile services could amount over 100 billion ECU and for mobile multimedia services approximately 34 billion ECU in 2005.[8] The huge economic potential of the mobile market is reflected in Community funding under the RACE and ACTS projects on mobile communications (176 million ECU in the period 1996-1998).

At Community level, the development of UMTS has received the necessary political support and the regulatory implications are currently being discussed on the basis of a proposal for a Council and European Parliament Decision on UMTS[9]. This proposal builds on the progress of work undertaken on standardisation in ETSI, on frequency harmonisation in the context of CEPT, and on market and regulatory issues addressed in the framework of the UMTS Forum.

At WRC-99, Europe will underline the importance of the need for additional globally harmonised allocations to meet demand for third generation mobile applications. It should be noted, however, that the frequency range identified for such allocations (i.e. 2 GHz range) may be planned by other negotiating parties for the provision of other services, such as satellite services, or difficulties may exist with the relocation of existing services in this frequency range.

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[8] UMTS Forum Report no 1: A Regulatory Framework for UMTS, 25.06.1997.

[9] Proposal by the Commission for a Decision of the European Parliament and of the Council on the co-ordinated introduction of mobile and wireless communications (UMTS) in the Community, COM(1998)58 final, 11.02.1997.

3.2 Satellite services, including broadcasting

Developments in satellite technology facilitate the cross-border provision of telephony, television, radio, and multi-media services which are all increasingly targeted at international markets. Europe should further consolidate its position through the development of and participation in satellite projects and seek corresponding frequency allocations and usage conditions at WRC-99 and future conferences.

Under several headings, WRC-99 will address frequency requirements for the provision of services, including voice telephony, and broadcasting, by means of satellites.

The issue that dominated the negotiations at the WRCs of 1995 and 1997 concerned frequency availability for the provision of satellite-based broadband services which will allow for high-speed Internet access and video conferencing to take place anywhere in the world. **The limited amount of frequencies available for the provision of satellite broadband services and the huge capital investments required to develop such wireless Internet infrastructures will have consequences for the level of global competition in this important area of the emerging Information Society.** Although access to frequencies is an important condition for the further development of satellite broadband communications, it cannot be a determining factor in itself but should equally take into account the economic, trade, and political interests involved in the global provision of such strategically important services.

The value of (planned) satellite personal and broadband systems is expected to reach 350 billion ECU.[10] Taking the importance of satellite communications into account, the fifth Framework Programme for RDT foresees a funding of Information Society technologies of 3.3 billion ECU in the period 1998-2002.

The satellite communications sector has been addressed in a number of Community measures, the most recent one of which aims at the rapid introduction of compatible satellite personal communications services (S-PCS) in the Community through the harmonisation of frequency bands and usage conditions attached to general authorisations[11] as well as to remove remaining barriers to the free movement of terminal equipment. **With regard to satellite broadband services, Europe is supportive of a positive review of the technical conditions agreed at WRC-97 which will allow European companies to compete with their systems on the global market.**

Satellites are also leading the introduction of digital television and radio services in Europe and lead to an expansion of the demand for audio-visual products. Digital television offers innovative ways to deliver both traditional services as well as new multimedia services. This trend is explored in detail in the

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[10] Communication on the EU Action Plan: Satellite Communications in the Information Society, COM(97)91, 05.03.1997.

[11] Decision No 710/97/EC of the European Parliament and the Council on a co-ordinated authorisation approach in the field of satellite personal communications services in the Community, OJ L105, 23.4.97.

Commission's recent Green Paper on convergence.[12] The market for European audio-visual products is estimated to be worth 54 billion ECU in 2005 (as compared to 32 billion ECU in 1995).[13] Community funding for the introduction of advanced television services amounted 228 million ECU in the period 1993-1997. **In order for the European market for audio-visual products to further develop, sufficient availability of frequencies needs to be secured.**

Within the ITU/WRC context, countries agree to so-called plans for the use of spectrum resources (i.e. orbital slots, 'footprints', frequencies) for the provision of broadcast satellite services. Decisions taken in this respect at WRC-97 will now allow for the possible deployment of digital systems in the agreed frequency bands and generally provide for more competition in this area, which is particularly important for pan-European systems. WRC-99 will review to which extent the current assignment of spectrum resources among countries is still appropriate or whether modifications need to be made to the plans.

3.3 Aeronautical and satellite-radionavigation services/GNSS

The need for appropriate balancing between commercial, strategic, and general interests by political instances is particularly relevant with respect to aeronautical and radionavigation/GNSS services, the frequencies for which are subject to claims by commercial telecommunications interests but which are needed to ensure the safety and further expansion of such applications in both the commercial domain as well as in the context of public interest applications.

The establishment of a single air transport sector on the basis of free market access is one of the Community's main features of its transport policies. Air traffic has increased significantly over the years with the result that the Community's airspace and airport infrastructures are in need of sufficient frequencies on a non-interference basis. In conjunction with ICAO (International Civil Aviation Authority), the Community is developing new concepts for Air Traffic Management (ATM) but **concerns exist as to which extent frequencies for aviation are subject to claims by, or interfered with other potential users from the commercial (satellite) communications industry.** WRC-99 will discuss the availability and reliability of sufficient spectrum for aeronautical services.

The Commission Communication on GNSS **(Global Navigation Satellite Systems)**[14] estimates the annual world market for GNSS applications close to 50 billion ECU by 2005. GNSS can promote sustainable mobility, transport efficiency, and safety in general. GNSS applications include aviation and vessel traffic management, railway control, tracking of dangerous goods, oil and gas recovery, identification of fishing grounds. On 17 March 1998, Council endorsed the Commission's outline of the European strategy for the development of a trans-European positioning and navigation network, including the strategy on GNSS, and in particular stresses that the needs of GNSS in the area of frequencies and orbits must

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[12] Green Paper on the convergence of the telecommunications, media and information technology sectors, and the implications for regulation COM (97)623, Brussels 3 December 1998 (see chapters 1 and 2 in particular).

[13] See study by Norcontel - *Economic implications of New Communication technologies on the audio-visual markets*, April 1997

[14] Communication from the Commission: Towards a Trans-European Positioning and Navigation Network, including a European strategy for Global Navigation Satellite Systems (GNSS), COM(98)29 final, 21.01.1998.

be recognised in the relevant international fora. Community funding for the first stage of the European component of GNSS is 50 million ECU for the period 1995-1999. WRC-99 will review to which extent spectrum reserved for satellite-radionavigation services can be shared with other services and will address the question how much spectrum is needed for the further development of GNSS applications.

Radiocommunications systems for the provision of aeronautical and GNSS applications are developed to serve global markets and have both a public interest (safety) and a substantial long-term commercial potential. This is however less developed than the mass consumer market for mobile and satellite communications services. This has resulted in the situation where the safety and strategic interests of aeronautical and GNSS communications compete for spectrum with commercial telecommunications interests which already fully acknowledge the importance of WRCs as evidenced by the strong lobby in this context. It is therefore essential to develop long-term European positions on aeronautical and satellite-radionavigation which ensure the safe use of existing frequency allocations, take into account future requirements, and are balanced and proportionate with the needs of the commercial radiocommunications sector.

3.4 Earth observation

The importance of Earth observation applications in Europe should be discussed in social, economic, and strategic terms in order to ensure that WRC-99 appropriately addresses Europe's frequency requirements in this area.

The potential social, economic and strategic importance of Earth observation is considerable. Earth observation comprises applications in diverse areas such as, inter alia, global scale measurements, implementation of environmental and civil protection policies, and agricultural policies. The Community is making a substantial effort in stimulating Earth observation applications through its RTD programmes and spent under the Fourth Framework Programme on RTD around 275 million ECU on Earth observation applications and RTD projects. The Fifth Framework Programme will include activities on the development of generic Earth observation technologies, notably satellite technologies for environmental monitoring and resources.

The Community and its main collaborators in this area (i.e. EUMETSAT, ESA, national weather and space agencies) are keen to ensure that the frequency requirements for this use of general interest are secured. Since WRC-99 will address frequency requirements for Earth observation applications, the need for, and operating conditions of, frequencies for such applications at Community level need to be addressed by the relevant players.

4. PREPARATIONS FOR WRC-99 IN THE COMMUNITY CONTEXT

In response to the Council Conclusions on WRC-97 of 22 September 1997, which were adopted on the basis of the Commission Communication to the European Parliament and the Council on the WRC-97[15], the Commission has reflected upon the results and experience gained at previous conferences and has initiated a number of actions to further consolidate Community interests in the WRC process. The overall objective of such actions with regard to WRCs is to ensure that WRC decisions comply with relevant Community policies and interests and to contribute to an appropriate balancing of commercial and general interests in the working out of European positions for WRCs which are endorsed by political instances at the highest possible level.

4.1 Compliance of European positions for WRC-99 with relevant Community policies

CEPT will prepare and adopt the common European positions for WRC-99 in consultation with the European Radiocommunications Committee (ERC) and the European Radiocommunications Office (ERO). Work has been organised in a number of project teams dealing with regulatory issues, broadcasting, satellite issues, and maritime/radionavigation services.

In order to ensure that the positions worked out by the frequency and telecommunications experts in CEPT comply with Community interests, the Community, as represented by the Commission, will participate in the preparatory process initiated by CEPT/CPG, in particular as regards providing input on those Community policies which depend on the availability of frequencies (see Chapter 3) while taking due account of the *acquis communautaire*. Whereas the Community is traditionally represented in CEPT/CPG by Commission representatives responsible for telecommunications, and recalling that the WRC-99 agenda comprises issues which go beyond telecommunications policy, there may be a need for additional input to the CEPT process, in particular as concerns Community policies on broadcasting, aviation, satellite-radio navigation, and Earth observation.

Although the need for appropriate Community input into the CEPT process is clear, a further balancing and prioritising of the political objectives to be achieved in the area of frequency allocations should be initiated at Community level. The Commission therefore regards the provision of input to CEPT as important element in achieving a wider objective which entails that frequency requirements for the implementation of frequency-dependent Community policies are addressed by the relevant market actors and political and technical authorities as part of a European long-term strategic spectrum plan with which European harmonisation measures in the area of radio frequencies as well as the elaboration of appropriate positions for WRCs should comply. This matter will be addressed during a public consultation phase the Commission intends to carry out during the course of 1998.

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15 COM(97)304 final, 18.06.1997.

4.2 Appropriate balancing of radiocommunications interests

It is necessary that commercial interests, regulatory authorities, scientific and professional organisations, and representative consumer and user organisations publicly discuss the respective interests at stake at WRC-99 so that commercial and general interests can be appropriately balanced in the working out of positions. In this context, the Commission and the CEPT/CPG will organise consultation meetings on the WRC-99 agenda items, in particular dealing with UMTS, satellite-radionavigation, transport and high density fixed services (including high altitude platforms).

Furthermore, the Commission envisages to address WRC-99 issues in its regular contacts with individual or representative organisations (including for small and medium-sized enterprises) such as ECTEL and EITIRT (telecommunications manufacturers), the UMTS Forum, ETP (European Telecommunications Platform), GSM MoU (operators), and with the satellite industry in the context of the Satellite Action Plan. The Commission encourages the Member States to use the relevant (high-level) advisory bodies set-up by the Commission, such as the Space Advisory Group and the High-Level Group on GNSS, to express their positions. In the context of the formal relationship of the Commission with the European Radiocommunications Office (ERO), ERO will be funded to carry out certain tasks with the aim to contribute to the development of European positions for the WRC-99 through consultation and examination of European and global radiocommunications interests.

In addition to these consultations in the telecommunications area, it is also necessary that political and technical instances, such as the responsible authorities for telecommunications, transport, defence, RTD, and culture – whose policies may depend on frequency availability – co-ordinate positions, priorities, and objectives to be achieved with all interested parties. This is particularly relevant in those cases where varying interests compete for access to the same frequency bands, such as mobile satellite applications and satellite-radionavigation, television broadcasting and satellite broadband applications, Earth observation and fixed (satellite) services. Such co-ordination is necessary to uphold the European positions to be negotiated and to avoid that bilateral contacts with third countries at sector level may undermine the across-the-board European position.

4.3 Approximation of positions with third countries and regions

In the changing context of WRCs described in chapter 2.1 above, it is desirable to achieve a certain level of approximation of proposals between negotiating parties before the start of the WRC in order to avoid that decisions at the conference are postponed due to a lack of time or unbridgeable differences in positions. The Commission will be involved in bilateral contacts organised with other regional telecommunications organisations, such as CITEL, APT, and the Arab and African representative organisations. It is particularly important that Europe co-ordinates positions with the Arab and African representative organisations since they negotiate positions as belonging to the same Region within the ITU/WRC.

The Commission will also co-ordinate positions with third countries in the context of regular bilateral meetings with its main trading partners. In this context, it will be important to co-ordinate the objectives to be achieved at WRCs with the countries of Central and Eastern Europe, including those engaged in accession negotiations; it is noted in this respect that they are all member countries of CEPT/CPG which

contributes to the harmonisation of approaches taken. An early dialogue with the United States and Japan is also supported. WRC matters will also be raised in the context of the regular dialogue with third regions (Mediterranean, Asia (ASEM), Latin America).

The approximation of positions should also comprise consultation with relevant international organisations affected by frequency allocation decisions, such as ICAO, EUROCONTROL, IMO, EUMETSAT, ESA, broadcasting organisations, Earth observatories.

4.4   Appropriate representation of Community interests at WRC-99

The results of the negotiations of WRCs are expressed in Radio Regulations and Appendices. These are attached to the Final Acts of the conference which are signed by all the delegates on behalf of and subject to the approval of their respective competent authorities. They are applied provisionally pending such approval. **WRCs therefore result in legally binding international commitments**.

The 15 Member States of the EU negotiate at WRCs in their own right, within the framework of the CEPT/CPG. On the basis of its existing observership within the ITU/WRC, the Community, as represented by the Commission, has participated at the WRCs in 1992, 1993, 1995, and 1997. Furthermore, the Community participates in the negotiations in its role as counsellor to the CEPT/CPG.

Since the Member States do not provide the Commission with a negotiating mandate to represent the Community at WRC, and taking into account that the legally binding results of WRCs directly affect Community policies, **common Community positions may need to be established**, where appropriate and in accordance with normal procedure. The Council Conclusions of 3 February 1992[16] have stressed in that respect that Member States and the Commission will meet on the spot if separate Community co-ordination proves necessary. As stipulated in the Commission Communication on WRC-97, this could for instance be the case (a) where Member States disagree amongst themselves on proposals submitted to the conference which affect the Community as a whole, (b) where Member States disagree with other CEPT countries on such proposals, (c) where CEPT proposals do not comply with Community interests, or (d) where a common Community position can contribute to strengthen the CEPT proposals in discussions with third countries.

It is essential that political agreement is reached on the objectives to be achieved with the common European positions to be negotiated, and this may happen, where appropriate, both prior to as well as during WRC through the establishment of common Community positions. The need for separate Community co-ordination in addition to that in the framework of CEPT would be less apparent in case the CEPT positions are formally endorsed at the political level in the Community, which is currently not the case and which has led to last-minute political intervention at the conference itself. This, in turn, affected Europe's across-the-board negotiating power. Subject to political support by the Member States for the European positions for WRCs, the Commission will contribute to ensure that Community interests are duly taken into account. The political support of the Community will

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[16]   Council Conclusions on the procedures to be followed at the World Administrative Radio Conference (WARC 1992), 3.2.1992.

substantially reinforce the negotiating power of Europe vis-à-vis third countries and regions.

The establishment of common European positions and the results to be achieved at WRC should also take into account the market access commitments made under the GATS[17] which was concluded in the context of the World Trade Organisation (WTO). As indicated in the Commission Communication on the WRC-97, it is should be avoided that certain countries use the ITU or a WRC to reformulate or re-interpret their GATS market access commitments. At WRC, the Community should take into account to which extent the impact WRC decisions may have on market access commitments made under the GATS. This should apply to both the GATS commitments taken by the Community and those taken by the main trading partners. Within the Community, the 113 Committee is an appropriate forum to discuss international trade aspects, and thus it should be used, where appropriate, to discuss and co-ordinate the Community position on such issues in the context of WRCs.

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5. CONCLUSION

This Communication highlights the political importance of the international negotiations on the harmonised use of radio frequencies and underlines the necessity for full Community involvement in the WRC process.

Within the Community, policies are pursued which depend upon the availability of radio spectrum, such as in case of the traditional telecommunications sectors of mobile and satellite communications, but also with regard to aeronautical and satellite-radionavigation services, broadcasting, and Earth observation, the frequency requirements for which have come under increased pressure from commercial telecommunications interests backed by national political instances. Taken together, however, these policies make a substantial contribution to the economy of Europe and are the building blocks for the emerging Information Society and they are of major importance from a public policy point of view. It is therefore essential to relate the technical decisions taken at WRCs to such broader policy aspects.

WRC-99 will have to consider important technical issues of relevance in the broader Community context:

- Will there be sufficient and suitable spectrum available to implement European policies for the development of mobile communications into mass-market, mobile, multi-media communications?

- How much spectrum will be available, and under which conditions, for the provision of global satellite broadband services and satellite broadcasting services and how will the technical conditions affect the level of competition at the global market?

- To which extent and on what basis will frequencies be available for services which are essential for socio-economic, political, and strategic purposes,

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[17] Notably in the context of the WTO/GATS Agreement on Basic Telecommunications Services, which entered into force on 5 February 1998. This agreement currently involves 72 countries, representing well above 90% of the global telecommunications market.

such as concerns satellite-radionavigation, aeronautical mobile, and maritime
mobile services, and Earth observation?

- To which extent will spectrum be available for the development of new
radiocommunications systems?

The legally binding commitments which WRCs result in are the backbone for the
further development of radiocommunications markets and directly impact on a
number of Community policies which are of major economic and strategic
importance. On the basis of past experience and in accordance with the Council's
views on WRCs, the European Commission seeks to ensure that the European
positions for WRC comply with Community interests, that such positions appropriately
balance commercial and general interests, and that an approximation of European
positions with third countries and regions and relevant international organisations is
part of the preparatory process. Appropriate representation of Community interests at
WRCs will remain one of the priorities of the Commission.

The proposed line of action will contribute to the consolidation of the Community
position at WRCs. However, further political discussions are needed to set priorities
to be achieved in the context of a coherent European long-term strategic spectrum
plan. This would allow to address the need for European harmonisation measures in
the area of radio frequencies and the development of positions for WRCs in a
comprehensive manner and on a longer term basis.

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ANNEX

GLOSSARY

APT	Asia-Pacific Telecommunity
BSS	Broadcast Satellite Service
CEPT	European Conference of Postal and Telecommunications Administrations
CITEL	Commission of Inter-American Telecommunications Administrations
CPG	Conference Preparatory Group of CEPT
DTH	Direct-to-Home
ECP	European Common Proposal, to be adopted by CEPT/CPG
ECTEL	Association of the European Telecommunications and Professional Electronics Industry
EITIRT	European Information Technology and Telecommunications Industries Roundtable
EO	Earth observation
ERC	European Radiocommunications Committee of CEPT
ERO	European Radiocommunications Office of CEPT
ESA	European Space Agency
ETP	European Telecommunications Platform
ETSI	European Telecommunications Standardisation Institute
EU	European Union
EUMETSAT	European Meteorological Satellite
EUROCONTROL	European Organisation for Air Traffic Control
FDD	Frequency Division Duplex, transmission technique used in wide-band cellular environments (see W-CDMA)
FPLMTS	Future Public Land Mobile Telecommunications Systems, now called IMT-2000
GLONASS	Global Orbiting Navigation Satellite System of the Russian Federation
GMPCS MoU	Global Mobile Personal Communications Services Memorandum of Understanding
GNSS	Global Navigation Satellite System
GPS	Global Positioning System of the United States
GSM	Global System for Mobile Communications
GSO FSS	Geostationary Orbit Fixed Satellite Service

IALA	International Association of Lighthouse Authorities
ICAO	International Civil Aviation Organisation
IMO	International Maritime Organisation
IMT-2000	International Mobile Telecommunications with 2000 referring to the expected date of introduction of the service
ITU	International Telecommunications Union
MoU	Memorandum of Understanding
MSS	Mobile Satellite Service
NON-GSO FSS	Non-Geostationary Orbit Fixed Satellite Service
RTD	Research & Technological Development
S-PCS	Satellite Personal Communications Services
TD-CDMA	Time Division/Code Division Multiple Access
TDD	Time Division Duplex, transmission technique of applications using TDMA (Time Division Multiple Access) radio interface
TEN	Trans-European Network
TG1	Task Group 1 of the CEPT/ERC
VTMIS	Vessel Traffic Management and Information Systems
W-CDMA	Wide-band Code Division Multiple Access
WRC	World Radiocommunications Conference
UMTS	Universal Mobile Telecommunications System
UTRA	UMTS Terrestrial Radio Access