

**Summary of the Analysis
of Responses to RSPG
Consultation on WAPECS**

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1 INTRODUCTION

This document provides a summary of the analysis of the responses received to a public consultation conducted by the Radio Spectrum Policy Group (RSPG) on Wireless Access Platforms for Electronic Services (WAPECS).

The purpose of the consultation was to seek the views from all interested parties on the spectrum implications of WAPECS. The consultation took place between 24th June and 15th September 2005.

A total of 37 responses were received. In three responses there were no comments provided on a question by question basis and one of these referred to two other specific responses. These comments have not therefore been specifically taken into account in the analysis.

The majority of the responses included a considerable amount of detail explaining the specific concerns and proposals. Even where the consultation asked a question where it was possible to respond with a “yes” or “no” the respondents often did not provide a clear response. It was also noted that the same points would be raised by respondents with common general interests. For example the responses from the broadcasters were generally similar as were those from the mobile industry.

It should be noted in the following analysis that a number of respondents covered more than one subject in their replies to the consultation so the numbers will not always add up.

2 SUMMARY

The following provides a brief overview of the responses:

Question 1: Definition of WAPECS

Less than half of the respondents (11 from 28) agreed with / supported / accepted the proposed operating definition of WAPECS. The reasons for agreeing were the need to have a broad definition. The reasons for not agreeing or totally agreeing were the definition did not clearly indicate the scope of WAPECS and what it was specifically intended to address. There were a further two respondents that thought the proposed definition could be further simplified.

The majority of respondents (21 from 24) considered the definition should include both public and private applications.

Question 2: Definition of “platform”

Less than a third (8 from 29) agreed with the proposed definition. The reasons for agreeing were the need to have a broad definition. Eight of the responses that disagreed proposed that there should be a clearer or closer definition. Six of the respondents proposed to replace the term with “systems” or refer to technology.

Question 3: Constraints on the broadcast domain

Five out of 34 respondents considered there should be no constraints placed on services using spectrum primarily in the broadcast domain. There were 14 responses that considered account should be taken of constraints placed on the use of spectrum for broadcasting. Other responses addressed issues such as the analogue-to-digital switchover, content regulation and how the spectrum could be utilised.

Question 4: Rules to safeguard the delivery of Services of General Economic Interest (SGEI)

There were a total of 30 responses and only 2 clearly indicated they considered there were no requirements for additional rules. In many cases the respondents proposed a mix of approaches. There were approximately:

- 11 responses in favour of regulation of the spectrum and 7 against
- 3 responses in favour of market based approaches and 2 against
- 7 responses in favour of competition law and 6 against, and
- 9 responses in favour of State Aid Policy and 4 against.

2 responses specifically proposed the avoidance of harmful interference.

Question 5: Impact on standardisation

There were a total of 32 responses and 4 clearly indicated there was no specific change required. There were 11 responses that stated or implied through their responses that harmonisation of use of the frequency bands should remain a priority

for standardisation. Seven responses considered issues associated with technical compatibility. Policies for ensuring availability of standards included availability of harmonised spectrum, lightweight and flexible approach to regulation, efficient relations between CEPT and other standards bodies.

Question 6: Other challenges

There were a total of 29 responses and the main challenges identified were the transition to the WAPECS regulatory regime, spectrum trading and liberalisation issues, spectrum requirements and specifically the need for further frequency bands. Interference, compatibility and interoperability issues / considerations, alignment of National procedures, an effective mechanism for the return of under used spectrum and the need for a comprehensive spectrum information system such as an enhancement to EFIS were also mentioned by a number of respondents.

Question 7: Policy goals

There were a total of 31 responses and of these a quarter (8) indicated various degrees of support for the identified long term goals. Ten of the responses raised concerns on the appropriate balance between technology neutrality, service neutrality, spectrum compatibility and benefits of harmonisation.

There was no clear favoured approach on how to achieve the balance between “minimising and harmonising constraints”. Five respondents said harmonisation should be the main objective and although 3 responses were in favour of technology neutrality another 3 were concerned with such an approach. There were 3 suggestions to reconcile flexibility and harmonisation by carrying out a progressive evolution in spectrum management starting with bands that present lesser problems.

Question 8: Other long term policy goals

There were a total of 31 responses. Fifteen covered topics that related to what extent there should be a free market and the appropriate extent of the regulation that should be applied. Other goals were the need to make available further spectrum and seven respondents proposed examining bands currently allocated to military / governmental use to see if there was the potential of sharing or releasing some of it. The need to specifically consider broadcasting services was mentioned in 5 responses. How the transition to WAPECS can be designed and the impact of a possible approach would need to be considered.

Question 9: Will the steps allow European objectives to be achieved

There were a total of 29 responses and 12 generally agreed with the proposals. Eleven responses raised issues associated with frequency bands - how to identify suitable bands. Six respondents proposed the involvement of industry either through forums / meetings open to industry participation or through regular public consultation. There were 8 responses that commented on issues that would need to be considered in developing the regulatory framework.

3 ANALYSIS OF RESPONSES

3.1 Question 1: Definition of WAPECS

There were two issues that were addressed in this question:

- Do you agree with this operating definition of WAPECS?
- Do you consider that the WAPECS concept should include spectrum intended for private, as well as public, application?

There were a total of **33** responses to this question overall although all did not address both parts of the question.

3.1.1 Definition of WAPECS

Less than half of the respondents (11 from 28) agreed with / supported / accepted the proposed operating definition¹ of WAPECS. The reason for agreeing was the need to have a broad definition.

The reasons given for not agreeing, or totally agreeing, with the definition were generally the need for a more comprehensive definition. There were clearly concerns as to the scope of WAPECS and what it was specifically intended to address. Specific issues mentioned were:

- Does not entirely reflect the objective stressed by the European Commission in its request for adoption of an Opinion on a coordinated EU spectrum policy approach.
- Is WAPECS a concept, a policy or tangible systems? The commonality factor that many systems are competing in similar end-user markets should be added in the WAPECS concept description and definition. Also missing is distinguishing systems and their regulatory regime. The “ideal” relevant market should be split into at least two: SGEI or non SGEI.
- The definition is not helpful as it does not clarify which systems, spectrum bands or services are included in the concept and how the concept as defined will assist in meeting the overall policy goal of developing the EU internal market and European competitiveness.
- It is not clear whether WAPECS refers to technologies, services or applications or a combination of each. A clear definition is required to ensure a stable regulatory framework.
- According to the definition the concept of WAPECS becomes purely technical but it is more a matter of interfacing technologies than of

¹ One was on the basis that the definition of ‘electronic communications services’ is taken from Directive 2002/21/EC Article 2c.

spectrum. Our understanding is there has to be a WAPEC for each significant service or application, and we understand that at least spectrum used to public services or applications has to be reserved to guarantee their availability.

- The definition does not really express the technology / service neutrality that is implied later in the consultation document.
- The WAPECS concept and particularly its definition should be improved. It should allow the evolution of existing, international standardised radio interface techniques and their operation in the world-wide harmonised spectrum.
- A comprehensive and clear definition is needed in order to ensure a stable regulatory framework. This is an important requirement for long term and significant investments in electronic communication services.

There were also concerns that the definition is too wide and the concept too radical:

- The definition is impractically wide. It includes many services of very different natures from technical, content and public interest points of view.
- The application of the same rules to licensed and unlicensed spectrum is discriminatory as some have to pay for an authorisation and the others get it free.
- The WAPECS concept is at times too radical. A more gradual and evolutionary approach that offers long term continuity may attract greater support. Footnote 1 in the consultation that refers to the International Radio Regulations should therefore be fully incorporated within the definition to add clarity and re-assure other spectrum users.
- There is insufficient evidence that there is a pressing need for the suggested concept of WAPECS as the existing definitions and allocation rules already provide a stable framework. The definition proposed varies considerably from what has been widely accepted as WAPECS – wireless services intended for densely populated areas (hot spots).

There were a further **2** respondents who considered that the definition should be further simplified. One considered that WAPECS is an adequate definition in itself – Wireless Access Platforms for Electronic Communications Services.

3.1.2 Alternative definitions for WAPECS

Alternative definitions proposed were:

1. “WAPECS is a framework for the provision of electronic communications services within a set of frequency bands to be identified and agreed between European Union Member States in which a range of electronic communications networks and electronic communications services may be offered on a technological and service neutral basis, provided that certain

technical requirements avoiding interference are met and that authorization conditions do not distort competition and enable the achievement of the objectives of identified general services.”

2. “Wireless access platforms for electronic services (WAPECS) are the wireless access networks used to access electronic communication services which operate without restriction on services (public or private) or interoperability and may use spectrum that may be licensed or licence-exempt.”
3. “Wireless access platforms for electronic services (WAPECS) are the wireless access networks used to access electronic communication services regardless of the technology the use, or the bands the operate, whilst fully recognising the obligations of the International Radio Regulations.”
4. “Wireless access platforms for electronic communication services (WAPECS) are the low-level protocol interfaces required to link converging services delivered through radio access technologies”.
5. “Wireless access platforms for electronic services (WAPECS) are the platforms used for radio access to electronic communications networks and / or services, regardless of the bands in which they operate², or the technology they use.” (2 responses).
6. Just use “Wireless access platforms for electronic communications services”.

3.1.3 Scope of WAPECS

There were a total of 24 responses to this part of the question and of these the majority (21) considered the definition should not be further restrained with regards the intended use (should be available for both public and private applications).

² Recognising the obligations on Administrations under ITU Radio Regulations

3.2 Question 2: Definition of “platform”

The question asked was:

- Do you consider the term “platform” should be more closely defined? If so, what definition do you propose?

There were a total of 29 responses and of these less than a third (8) agreed with the proposed definition of the term “platform”.

The reasons for agreeing were the need to have a broad definition.

Eight of the responses that disagreed with the definition proposed there should be a clearer or closer definition. **Six** of the respondents proposed to replace the term “platform” with “systems” or to refer to technology.

Other reasons for disagreeing included:

- The term “platform” should relate to the combination of component elements whose inter-relationships determine the characteristics of wireless access, namely:
 - Spectrum
 - Radio transmission equipment
 - Devices or other end-user terminals with an air interface.

It should not be defined to include the networks behind the air interfaces, interconnection interfaces, equipment used to create applications or services, or the content that is deployed.

- In the broad sense the platform is the terminal on top of which converging services will be given. Could be defined as the low-level hardware and software needed to provide interfaces to support converging services. There is a need to establish a difference between WAPEC for different end-user services or applications.
- The term “platform” is understood to relate specifically to the radio access network, as it is this which requires frequencies. It is not considered relevant or helpful to require “seamless” delivery across technologies if this is presuming interoperability. To do so would exclude almost all RAN platforms from the definition of WAPECS.
- The term platform will be difficult to define. Wireless access platforms will in the future come from a number of different backgrounds (e.g. cellular, broadcasting and the computer industry) to meet in various combinations within the converged market space.
- To try and define “platform” would reduce the scope of the WAPECS definition.

3.2.1 Alternative definitions to “platform”

Alternative definitions proposed were:

- “Networks based on wireless technology to connect the end customer”.
- Replace “platforms” by “systems” which is “society / competition” neutral.
- “The radio access network (i.e. infrastructure, interfaces, protocols etc.) including the associated user terminals.”
- “Radio access infrastructure”.

3.3 Question 3: Constraints in the broadcast domain

The question asked was:

- What, if any, constraints should there be on the provision of services using spectrum primarily in the broadcast domain.

There were a total of 34 responses and of these 5 considered there should be no constraints placed on services using spectrum primarily in the broadcast domain.

There were **14** responses that considered account should be taken of constraints placed on the use of spectrum for broadcasting, these included:

- Broadcasting spectrum and systems are defined on a pan-European / international basis and this needs to be respected.
- Services using broadcasting spectrum should respect the results of RRC-06 or other relevant conferences (e.g. CEPT Maastricht).
- Customers expect as a minimum that they can move and use their receiving devices (TV, audio etc) without any technical restrictions across Europe. This means broadcasting spectrum and systems should remain harmonised, standardised and accompanied with acceptable IPR approach.
- Technological neutrality needs to be interpreted within the full context of the frequency band taking into account legacy, present term and future market requirements as well as the availability of certain technologies designed for certain bands.
- Some forms of broadcasting can be considered to be Services of General Economic Interest and may require specific treatment.
- Making frequencies freely negotiable on the market would jeopardise the continued provision of broadcast services in the public interest.
- High power terrestrial TV and Radio transmitters are controlled by different strategic political and economic agenda and need special measures to ensure technical compatibility.
- Need to take into account different planning criteria for the Broadcasting Service.
- Spectrum in the broadcast domain should be left as defined for down-link purposes only unless a large amount of it should come available at one time.

Another commented that changes in the regulation of broadcasting should have a positive and not a negative impact on viewers and listeners.

There were **6** responses that specifically referred to the analogue-to-digital switchover and comments included:

- Spectrum freed up by the transition should be harmonised throughout Europe (4 responses). Two respondents proposed that the spectrum should be used for mobile communications.
- Spectrum from the digital dividend could form part of a pool of spectrum for WAPECS – broadcasting would not be excluded but would need to compete on a fair commercial basis for the spectrum.
- SGEI (i.e. public services broadcasters) need to have transitioned to digital and their services operational before any assessment of “unused” spectrum can be made.
- Wireless broadband access networks should not be rolled-out within the broadcasting band. The broadcasting concept may well evolve during the switch-over process and so no spectrum is released.

There were **3** responses that commented on content regulation:

- Content regulation - many of the traditional restrictions and regulatory constraints of public broadcast will not need to be applied to the new mobile broadcast market.
- For “broadcast spectrum” content regulatory constraints should be kept separate of broadcast spectrum management issues – best achieved by disassociating frequency assignments from audio visual programming rules.
- Constraints on content and advertising are justified but the traditional broadcasting regulation (i.e. quota and media pluralism) should not be extended to new media (offered via WAPECS).

There were **2** responses that commented on specific commitments in relation to use of the spectrum. One noted that such commitments should be fully respected or compensated for and another that current spectrum usage needs to be maintained, at the very least, for new converged services (DVB-H, HDTV, DTT).

In terms of how the spectrum could be utilised there were **6** responses that put forward views:

- Allow for other services by the mask concept and allotment planning. (2 respondents)
- Careful interference management needed to ensure spectrum use efficiency.
- Spectrum usage flexibility could be best achieved and managed by allowing candidates for new band allocations to simply declare their intended use of the band in question.
- WAPECS should not fragment the EU single market but should continue to ensure the harmonised use of spectrum to reap the benefits of economies of scale, roaming and network interoperability.

- The market demand for peer-to-peer content generation could be significant and should be investigated.

It was proposed by one respondent that spectrum fees for broadcasting could be redefined in accordance with those paid for other uses as now addressing other applications and markets (e.g. Transfrontier TV Directive).

3.4 Question 4: Rules to safeguard the delivery of Services of General Economic Interest

The question raised was:

- What specific rules should be introduced or maintained to safeguard the delivery of Services of General Economic Interest in the future? Is it most appropriate to deal with these issues through the regulation of spectrum, or through other instruments such as competition law or state aid policy?

There were a total of 30 responses and of these 2 clearly indicated they considered there were no requirements for additional rules.

The reasons for not requiring additional rules were:

- Current mechanisms of regulation of spectrum have proved to be efficient in attaining public sector objectives for broadcasting.
- Existing rules should be maintained and, if appropriate, adapted to the new reality.

In many cases the respondents proposed a mix of approaches to safeguard the delivery of Services of General Economic Interest. There were approximately:

- **11 responses in favour of regulation of the spectrum and 7 against**
- **3 responses in favour of market based approaches and 2 against**
- **7 responses in favour of competition law and 6 against, and**
- **9 responses in favour of State Aid Policy and 4 against.**
- **2 responses specifically proposed the avoidance of harmful interference.**

Some of the responses are shown below:

- Most regulatory concerns related to SGEI can be dealt with over time through technology progress and market-based mechanisms. Therefore no or minimal regulation should be the aim as market mechanisms, industry self-regulation and competition law should be sufficient.
- Universal service, use of structural funds or state aids for non covered areas etc should be used for SGEI. Only if no other less rigid alternative exists it could be possible to reserve some bands for such services.
- Adequate frequency management, facilitating efficient radio spectrum usage by avoiding harmful interference, as the basis for a reliable delivery of radio services in addition to state aid policy and competition law for SGEI.
- Safekeeping of public service broadcasting will be achieved through a mixed model in which both Regulation of spectrum and Competition Law should be applied. Regulation to guarantee sufficient access and

Competition Law to permit a sufficient degree of reallocation among such services.

- Regulators should continue to ensure harmonised spectrum for Services of General Economic Interest - the EU single market should not be fragmented.
- Competition rules are not an appropriate solution for broadcasting because public service objectives are linked to content and exclusive application of competition law appears inadvisable.
- State aid rules are not an appropriate solution because they could be expensive for the taxpayer and should therefore be used sparingly or avoided.
- State aid policy should be used when SGEI gives rise to unprofitable business provided there will be no adverse repercussions on competition rules.
- Market mechanisms were not considered an appropriate solution because they:
 - Only work well when the competing parties have comparable effects (costs or benefits) on 3rd parties and
 - Are not suitable for broadcasting where there are public service objectives

It was also considered by at least **3** respondents that SGEI needs to be defined clearly and one of these proposed that the economic impact on competition needs to be studied.

Other proposals and comments included:

- There should be no requirement on users to change the use to which they put their spectrum so it seems unnecessary to define specific rules.
- A neutral approach to both services and technologies would not safeguard the required access to spectrum for SGEI.
- International plans for broadcasting should be adhered to (2 responses).

In addition at least **3** respondents commented on the transition issues and one suggested that spectrum arrangements may need to be handled on a case-by-case basis and another that any changes need to take account of the specific situation in each Member State and this requires a pragmatic and evolutionary approach.

3.5 Question 5: Impact on standardisation

There were two questions raised:

- How do you think changes in spectrum policy will impact on the requirement for standardisation?
- What policy will best ensure the timely availability of standards?

3.5.1 Requirement for standardisation

There were a total of 32 responses. 4 clearly considered there was no specific change required and 1 of these explained that spectrum policy and standardisation are done in parallel and another considered that WAPECS does not change the incentives for standardisation markedly.

There were **11** responses that were concerned with spectrum harmonisation issues. They all stated or implied through their responses that they considered that harmonisation of use of the frequency bands should remain a priority. Arguments for harmonisation included:

- Horizontal markets linked by standardisation may be more difficult to achieve.
- Lack of harmonised band will impact on the availability of standards (specifically mentioned were interoperable and open standards) as well as equipment availability and price.
- Industry is more and more eager to find internationally harmonised spectrum (IMT-2000, RLAN, WiMax) and the availability of spectrum is a prerequisite in the development of standards and in the development of equipment. There is a significant risk that treating all WAPECS / electronic communications as one single regulatory object would undermine and confuse European industry.
- Lack of harmonisation could have adverse effects on radio network operators.
- A policy that demotes the importance of spectrum harmonisation will in general lead to more proprietary non-standardised solutions. Issues of long term confidence in spectrum policy.

There were **7** responses that covered technical compatibility issues. Issues raised included:

- Standards Bodies may:
 - Need to increase their focus on creating mechanisms and procedures where technical compatibility of new technologies can be more efficiently undertaken.
 - Need to co-operate more.

- Objective interference guidelines (not worst case) need to be established. It was commented that currently a final resolution is often difficult to achieve due to different criteria and methods being used (e.g. use of extreme worst case scenarios to prevent deployment of competitive systems).
- Standards will primarily provide the framework for the use of the spectrum and should only cover necessary parameters to avoid harmful / undue interference.
- Detailed standards can impede innovation and development of new technologies.
- Imported standards, often not optimised for a crowded EU spectrum environment, could cause problems in implementation and mitigation.
- Requirements for interoperability and roaming (where necessary) will need to be respected.

Other comments provided included:

- May generate a need for standardisation but flexibility will complicate standardisation
- The definition of WAPECS, provided there is a WAPEC for each significant service, could help standardising interfaces, allowing a rapid growth of convergent services.
- The more general trend is for standardisation to become market-led rather than managed by regulators with bodies such as the DVB group or the Wi_fi Alliance coming to the fore. Changes in spectrum policy towards greater flexibility and technology neutrality will encourage it still further.
- Spectrum policy should not be too biased towards standardisation. Public broadcasting can play different roles in the individual European countries. Attempts to impose standards through intervention could be fatal in small economies.
- Better co-ordinated, more flexible and neutral spectrum management will enable faster time-to-market standardisation and greater coherence between spectrum awards and real market demand.
- The WAPECS concept, if handled correctly, will inherently encourage an appropriate level of standardisation. There must be the flexibility to accommodate both the “formal” standardisation and the market driven “ad-hoc” standardisation.
- The greatest impact for standardisation will come from the liberalisation of the use of the spectrum and could imply in practice the end of standardisation. The definition of technical solutions could shift towards industrial groups sufficiently strong to define their own solutions and acquire

sufficient spectrum to provide guarantees of success. A cautious approach may be necessary to avoid commercial wars. (PT8 study on harmonisation and the introduction of flexibility in spectrum regulation will prove useful to clarify such potential issues).

- Will generate a need for new standards but there will be no fast and easy solution for standardisation as long as the demands of the different services are incompatible. Since standards are voluntary and mainly driven by industry the interests of non-commercial broadcasters are difficult to protect, even if reasonable protection of broadcast services is requested in the scope of a standard.

One respondent felt there would be no requirement for standardisation. The reasons were:

- Commitment to certain principles of frequency usage of higher importance for the effective implementation than the execution of a standardisation process.

Other comments:

- Technological neutrality is never totally reached, and technological neutrality and service neutrality is less and less justified the more systems and services are of great social and societal importance. It is difficult to allocate spectrum to SGEI and at the same time promote neutrality. Harmonisation is essential for interoperability and roaming but is a mathematical necessity in the air interface.

3.5.2 Policy to ensure availability of standards

The following policies were proposed in the responses:

- The requirement for standardisation should not be considered in global terms since standards are generally designed to match specific spectrum uses.
- A lightweight and flexible approach to regulation for WAPECS with clarity and transparency as to what is permitted should encourage the development of standards. Needs to be a balance of licensed and licence-exempt spectrum and for licensed spectrum a non-discriminatory (technology neutral) licensing framework will stimulate rapid standards development. Harmonised spectrum ranges will be beneficial to WAPECS developments.
- Availability of harmonised spectrum.
- Efficient relations between CEPT and the standards bodies such as ETSI (2 responses) and industry led standardisation should be compatible with the current ETSI body validation process as illustrated by the CDMA 2000 experience.

- A flexible approach to spectrum management, including market mechanisms, will provide more scope for the industry to take the lead in harmonisation activities in the usual standards bodies like ETSI and IEEE and not the regulators. Industry led standardisation is likely to become increasingly important as spectrum harmonisation becomes more flexible.
- Availability of harmonised spectrum bands will be beneficial, with a technology neutral licensing policy where license-exempt use is not feasible. The choice of technology should usually be made by market forces, selecting from available standards developed in SDOs.
- Policy that fosters availability of open and flexible standards that promotes innovation and convergence. Constraints affecting industries should be carefully evaluated and existing rules should be revised accordingly.

3.6 Question 6: Other challenges

The question asked was:

- Are there any other challenges that the RSPG should consider?

There were a total of **29** responses and the challenges identified included:

- Transition issues which were mentioned in **9** responses, for example:
 - Legacy is one of the major issues. The RSPG should design, or recommend to design, common transition rules for the regulatory management of legacy issues and to alleviate discriminatory treatment that applying the WAPECS regulatory Regime could create. Should consider all types of services and differences in financial legacies, coverage obligations, restrictions or obligations on access etc.
- Alignment of National procedures were mentioned in **3** responses, for example:
 - The progress of convergence in services and technologies requires regulatory clarity with regards competition, authorisation and licensing. Alignment of the diverging national procedures would be desirable. RSPG could initiate a more uniform approach to achieve sufficient flexibility while maintaining the necessary degree of harmonisation to avoid fragmentation of the market.
 - A consistent authorisation procedure has to be implemented at the national level for broadcasting and telecommunication sectors. RSPG could reflect on the way to move to closer regulation of these two domains. (2 respondents)
- Spectrum trading issues were mentioned in **8** responses, for example:
 - It would be useful to reach a common understanding in the field of spectrum trading and frequency liberalisation and the interplay with WAPECS.
 - Providing guidance on the issue / definition of property rights and licensing.
- Spectrum requirements were mentioned in **7** responses with 2 of these noting the need to identify further bands and another that there needs to be a mechanism to identify and agree on a list of frequency bands.
- The need for an effective mechanism for the return of spectrum when licensees do not meet their obligations or it lies fallow was mentioned in **3** responses.

- The need to create a comprehensive spectrum information system such as an enhancement of the EFIS data base was mentioned by **3** respondents.
- The need to identify the specific character of specific services and domains were mentioned in **3** responses. Two mentioned broadcasting and another the transport domain.
- Interference, compatibility and interoperability issues / considerations were mentioned by **4** respondents.
- Other specific challenges mentioned were:
 - Impact and consideration of IPRs on both innovation and harmonisation and specifically the WAPECS concept.
 - The broader challenges mentioned in the Commissioner's speech of 16 June – WAPECS is considered a modest step towards reform.

3.7 Question 7: Policy goals

There were two questions raised:

- What is your view on the long term policy goals mentioned above?
- What is your view on how to achieve the right balance between “minimising and harmonising constraints” presented under point 9?

There were 31 responses to this question.

3.7.1 View on long term policy goals

There were **8** responses that indicated various degrees of support for the identified long term goals.

- One supported this goal but believed that Europe has much to do to achieve it and the commencement of ‘genuine, co-ordinated reform’ is now overdue.
- Another fully agreed especially in what concerns defining interference limits and monitoring issues.
- One supported the neutral approach to minimising and harmonising constraints on the use of spectrum.
- Another agreed the 4 subjects are definitely necessary.
- Another supported the neutral approach but considered that interference concerns have probably been over-emphasised as innovative solutions such as Smart Radio can make an enormous difference.
- Another generally agreed with the policy goals but commented that progressive adoption of market-based mechanisms should be favoured, with a concomitant increase of reliance on self regulation and antitrust law in the place of regulation.
- Adopting a neutral approach to both services and technologies is positive, as long as the set of limits is established in order not to discriminate or jeopardise plurality or public services in member states.
- Another agreed that the long-term policy goal should be towards converged and coherent spectrum regulation but questioned the conclusion that this would in every case require full technological neutrality and service neutrality.

Specific views expressed that were concerned with the approach included:

- The appropriate balance between technology neutrality, service neutrality, spectrum compatibility and benefits of harmonisation (interoperability, roaming and efficient use of spectrum were touched on in **10** of the

responses. It was noted that the text in points 7 and 9 are not consistent with the earlier RSPG opinion on trading which actively promoted harmonisation. (2 responses). One response commented that:

- Allowing technology choice can often enhance competition but too much emphasis could harm competition in both services and radio terminals. Do not support view that current regulatory approach lacks flexibility and discourages innovation.
- A “laissez faire” approach is not an option or could only be applied to some kinds of services like wireless internet access. (2 responses)
- Issues associated with interference were also mentioned in 3 responses:
 - Interference will depend on the interferer system. (Point 6)
 - Public broadcasters have an obligation to provide a near universal – service and would have to cope with any interference. Would the public be willing to pay the additional costs? (Point 7)
 - Introduction of flexibility in the use of frequency bands should not introduce unacceptable interference to the existing usages in these bands.
- It was also mentioned that the approach should take into account existing decisions and in the case of potential sunset clauses they should take into account the time scale needed for all related technologies to develop (e.g. satellite projects have longer lifecycles).

3.7.2 How to achieve the right balance

Specific comments that proposed ways of achieving the right balance included:

- The best way to reconcile flexibility and harmonisation is to carry out a progressive evolution in spectrum management, avoiding, as far as possible, sudden substantial changes. It should be started with the bands and uses that present lesser problems and then move to other bands on the basis of the experience acquired. (3 responses)
- **Three** respondents were in favour of technology neutrality as siding with a type or group of technologies or certain services prevents technical and service evolution. One of these noted that issues of potential interference will have to be carefully controlled and monitored.
- **Three** respondents were concerned with technology neutrality because:
 - Such an approach, particularly at this stage prior to broadcast services transitioning to digital, would interfere with national policy for safeguarding SGEI.
 - Point 9 says such an approach would require “adherence to defined interference limits” but this assumes that the victim service is known, and to a certain extent the victim technology is known.

But in a service / technology neutral regime none of them are known. The only solution is to align a worst case, which nobody wants because it would be very inefficient.

- It does not meet the need for more harmonisation claimed by industry
- Another response addressed the technology neutral concern shown above by excluding broadcasting services and proposed that broadcasting should be excluded to allow the establishment of common European services using common technologies on the same bands.
- Harmonisation should remain the main objective. (5 respondents).
- One way out of the dilemma of technology neutrality being in contradiction to harmonisation is to define clear criteria for technologies that can be used, e.g.
 - The technology shall not be proprietary but jointly standardised by a broad international community of independent companies (e.g. standards organisation)
 - The standardisation organisation shall have defined reasonable IPR-rules.

These criteria aim to prefer technologies from international standardisation against proprietary solutions and should achieve goal of “harmonisation whilst minimising constraints”

- The following requisites would strongly contribute to achieving the right balance between conflicting spectrum management constraints:
 - Harmonisation should apply in all cases where it will be beneficial for achieving the most efficient use of any given part of the spectrum (e.g. satellite applications)
 - Compatibility with services already identified in the band must continue to be ensured, in particular where cross-border effects may occur (e.g. international satellite and broadcast applications which depend on international agreements)
 - Service definition flexibility can be feasible, provided that the term “service” refers to the service provided to the public, and not necessarily to the “service” in the sense of the ITU radio-regulations.
- Concerns were expressed in one response about the emphasis placed on the balance between minimising harmonisation and regulation. At the spectrum level, it is perfectly possible to define spectrum regulations in a manner making it suitable for the carriage of broadband services (say) and not define the technology in any way. The harmonisation would then

proceed on the basis of market dynamics relating to the economies of scale. Thus 'minimising regulation' is not seen as a counter-position to 'harmonisation' in the matter of spectrum. Both are needed.

- Increased flexibility and harmonisation are not necessarily opposing. Minimising and harmonising constraints in the use of spectrum can best be delivered by adopting a neutral approach to both services and technologies. This will facilitate both flexible use of spectrum and single market cohesion by allowing the industry to take the lead in harmonisation activities.
- The way to achieve the right balance is with close collaboration and participation of ETSI and CEPT to adopt:
 - A clear regulatory agenda with well defined objectives
 - A phased process of implementation, carefully controlled and monitored
 - Guide lines to help the definition of harmonised levels of interference and mechanisms to resolve disputes.

3.8 Question 8: Other long term policy goals

The question asked was:

- Are there any other long term policy goals that the RSPG should consider?

There were a total of 31 responses. One stated that they would prefer to see the results of the work related to WAPECS, in particular the request for opinion, before other long term policy goals are considered. Another supported the long-term policy goal expressed in the consultation document and did not wish to propose any additional high-level policy goals in the WAPECS context.

Fifteen responses covered topics that related to what extent there should be a free market and the appropriate extent of regulation that should be applied. For example:

- Review general European objectives for the interoperability between WAPECS platforms with a view to creating some guidelines if necessary. However the Commission should not mandate interoperability solutions.
- Need to scrutinise whether, and to what extent, flexibility is the right way for radio spectrum regulation.
- The Commission should develop long term policy that supports standardisation, harmonisation and balanced regulation without preferring brakeless market forces.

It was also commented that the rest of the world should be encouraged to follow the same route. If this does not happen European industry will not have the proper products in the proper band and even if they had would have very small economies of scale in their domestic market.

The other policy goals identified in the responses included:

- The need to make available further spectrum. For example the i2010 initiative requires more spectrum below 6 GHz and the WAPECS concept will not solve this. **Seven** responses proposed examining bands currently allocated to military / governmental users to see if there was the potential for sharing or the releasing of some of it. Related to this another response proposed that the RSPG should consider how to involve governmental users and the scientific community in frequency spectrum policy³. It was

³ One respondent, that did not provide comments against the individual questions, commented that:

Many of the frequency bands quoted in the WAPECS draft as the resource for commercial systems are extensively used in most European countries. They are mentioned in many National Frequency Allocation Tables as military or government usage only. Also a number of frequency bands included in the WAPECS draft are covered by the NATO Joint Civil / Frequency Agreement (NJFA). This leads to the necessity of close co-operation between the RSPG and NATO organisations.

also proposed that new spectrum release dates should be set within the definition of the WAPECS project.

- The need to specifically consider the broadcasting service was mentioned in **5** responses: spectrum needs and uses (3 responses), development of services in line with technology and public needs (1 response) and regulation were mentioned (1 response).
- Transition issues were raised by **3** respondents. How the transition can be designed and the impact of a possible new approach on legal, administrative, executive and negative (budgetary) aspects associated with WAPECS need to be considered. It was also proposed that there should be a formal commitment obtained to implement spectrum liberalisation reforms by an agreed date.

3.9 Question 9: Will the steps allow European objectives to be achieved

There were two questions raised:

- Do you think that these steps form an adequate basis for the achievement of the European objectives in this area?
- Are there any other steps that are required?

There were a total of 29 responses and 12 generally agreed with the proposals.

Other steps that were proposed included:

- **Eleven** responses raised issues associated with frequency bands; how to identify suitable bands. These included:
 - asking CEPT⁴ for a technical report on the frequency bands initially identified as most suitable for WAPECS and the technical co-existence rules that should apply (3 respondents).
 - the RSC should report back to RSPG on any issues that might hinder development of WAPECS
 - identifying a sub-set of bands where it may be possible to apply the principles of WAPECS in the shorter term – will provide a model that can be used in other bands (4 respondents)
 - identifying additional spectrum to support i2010 (2 respondents)
 - need to have the flexibility to include new frequency bands at a later stage.
- **Six** responses proposed the involvement of industry either through forums / meetings open to industry participation or by regular public consultation.
- There were **eight** responses that commented on issues that would need to be considered in developing the regulatory framework. For example:
 - The role of competition policy and the need to provide a balance between technology choices and promoting competition.
 - Then underlying economic principles need to be considered in much greater detail
 - The need for refinement of the European spectrum regulatory regime e.g. reorganisation of spectrum planning and management

⁴ The involvement of CEPT was supported by 4 respondents but another considered that CEPT is likely to be cautious in its technical assessment and mere information exchange is unlikely to be enough to dislodge the many entrenched interests.

responsibilities in Member States, a framework for easier convergence among the wide variety of technologies.

- Objectives and benefits need to be clarified against the status quo and a risk assessment process needs to be incorporated.