

RSPG05-87-rev

Alcatel contribution to the

RADIO SPECTRUM POLICY GROUP
Public consultation ON
Wireless Access Platforms
for
Electronic Communications Services
(WAPECS)

15 September 2005

In view of the interest expressed in this subject, the RSPG has decided to issue this document for public comment in parallel with the ongoing discussion in the RSPG. The contents should therefore be viewed as "work in progress" and do not necessarily represent the views of Member States. Comments received, from both Member States and other interested parties, will be considered in developing an RSPG Opinion on WAPECS. The deadline for comments is 15 September 2005. The intention is to develop a draft Opinion for consideration by the RSPG at its next meeting in late November 2005.

ANNEX 2

THE PUBLIC CONSULTATION

Acknowledging the importance of radio spectrum for significant industrial and economic activities and in order to ascertain the views of spectrum users, the RSPG is conducting a public consultation according to article 5 of the radio spectrum policy group decisions, via the RSPG website, on 24 June 2005, with a **closing date for comments of 15 September 2005**.

Scope

The purpose of the consultation is to seek the views from all interested parties on the spectrum implications of WAPECS. Views are sought on the following questions:

- Q.1 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, applications?

Alcatel Response:

Q1: The proposed holistic approach to addressing spectrum related issues for electronic communication services presents three main advantages, by enabling:

- 1) Improved awareness of the total amount of spectrum effectively available over a given period of time for growth and evolution of radio-based markets (e.g. better understanding of the real lack of spectrum for commercial applications, and the urgent need to free spectrum for commercial use);
- 2) Faster, closer to market implementation of spectrum decisions that would be more in line with end-user market demand, competitive market requirements and wireless technology lifecycles;
- 3) Reinforced coherence and synergy in overall spectrum management, encouraging authorities to take better into account other, neighboring radio markets when making a band specific decision.

To be efficient, the WAPECS project should logically embrace all frequency bands allocated for commercial use, i.e. excluding SAR or military bands but including both licensed and unlicensed spectrum (be it “private/non public” or “public” in nature). Accordingly, Alcatel supports the draft “operating definition” of WAPECS, as a useful starting point for open discussion, and which could even be further simplified to: *“WAPECS refers to all “Wireless Access Platforms” that provide radio access to any “Electronic Communications Services”, regardless of the bands in which they operate or the technology they use.”*

NOTA: The inclusion of satellite spectrum within the scope of this analysis is fully justified and supported; to this end, we have completed where necessary reference to satellite frequencies (sometimes overlooked at different points of the consultation).

Q.2 Do you consider that the term “platform” should be more closely defined?
If so, what definition do you propose?

Alcatel response:

Q2: From a supplier’s point of view, the term “platform” generally refers to an open, scalable and cohesive system architecture, built from modular hardware and/or software building blocks that together form a number of essential characteristics:

- Capacity to host multi-service applications offering both general purpose (usually embedded) and feature-specific functionalities, operating in real-time or post-processing modes, in compliance with service quality control and performance requirements;
- Flexible plug and play components based on industry standards (usually stretching over Layers 1, 2 and 3) including low level APIs capable of running basic end-user service software applications (e.g voice, video, messaging services);
- Designed to allow for field trial, integration and interoperability testing, and equipped with interfaces linking the platform to external, interconnected or distant elements such as dedicated service platforms or other network elements (e.g. remote base stations, access, edge/aggregator nodes);
- Usually a distributed architecture with centralised management capable of supporting multi-tenant service provider and/or end-user applications operations and maintenance.

Moreover, new generation technology “platforms”, such as the IMS (IP Multimedia Sub-System – featuring a transport agnostic access layer) go beyond converging spectrum usage to enable IP-based communication applications for traditional wire-line networks, converging fixed and mobile service applications and delivery over the same underlying technology platform.

In this broad context, the term “platform” could remain loosely defined (generally understood as a more open and evolved notion taking into account ICT convergence, adopted to replace the more traditional, technology specific term of telecommunications “system”).

WAPECS Concept – Comment on the figure:

Please note that “BWA” and/or “WiMAX” references are missing from figure 1 (should be added right in the middle of the drawing). Moreover, “T/S-DAB” should be accompanied by “DVB-T/S” (inserted to complement or replace DTT by DVB-T). “DVB-H” should also be added (in the mobile area), and S-DMB (in broadcasting to mobile). We also suggest, for the sake of clarity, to change “portable” to “nomad” in the right hand column - legend.

Q.3 What, if any, constraints should there be on the provision of services using spectrum primarily in the broadcast domain?

Alcatel response:

Q3. “Spectrum service provision constraints”:

Technology neutral and usage flexible access to spectrum policy has become market critical for introducing any new generation radio access equipment, as indicated by the general trend towards converged service bundles and multi-access platforms.

Technological neutrality (see also response to Q8), however, needs to be interpreted within the full context of the frequency band under consideration (taking into account legacy, present term and future market requirements, as well as the availability of certain technologies designed for certain bands). Neutrality can be defined in different ways for different bands. For BWA markets, neutrality can mean the possibility to use either TDD or FDD multiplexing techniques in the same band, whereas in the IMT2000 context, neutrality can mean adoption of any of the 5 approved radio access standard families defined by the 3GPP.

Spectrum usage flexibility, on the other hand, could be best achieved, and managed, by allowing candidates for new band allocations to simply declare their intended use of the band in question. This would allow further exchange with the regulator on the feasibility of usage, giving better insight of market perspectives and evolution, as well as achieving a strong commitment on behalf of the frequency holder to make best use of the resource. Moreover, service aspects, sensitive to further evolution with time, would not be rigidly limited to conditions written into a given, long-term authorization (often given over 10 years).

“Broadcast spectrum”:

Content regulatory constraints should be kept separate of broadcast spectrum management issues, in order to ensure sufficient levels of usage flexibility. This would be best achieved by disassociating frequency assignments (ie under relevant market 18) from audiovisual programming rules.

- Q.4 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?

Alcatel response:

SGEI delivery can be best handled via Competition and State aid policy. Improved spectrum management techniques, methods and policy will certainly contribute positively to any future evolution of the SGEI.

- Q.5 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?

Alcatel response:

Q5: Better coordinated, more flexible and neutral spectrum management will enable faster time-to-market standardization and greater coherence between spectrum awards and real market demand.

Standardization lifecycles can also impact/determine usage or change of usage for spectrum assignments (for example: thanks to evolving standards it will be possible to perform newly converged fixed-mobile end-user services in previously service restricted frequency bands).

- Q.6 Are there any other challenges that the RSPG should consider?

Alcatel Response:

Q6: Spectrum trading should also be taken into account in overall WAPECS policy. Guidelines applicable to all WAPECS spectrum should be adopted to render spectrum usage more fluid and more pertinent as market conditions, systems and players evolve.

Q.7 What is your view on the long-term policy goals mentioned above and more specifically on how to achieve the right balance between “minimising and harmonising constraints” presented under point 9?

Alcatel response:

We believe the following prerequisites 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 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 (eg international satellite 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 radio-regulations (ITU terminology).

Regarding sunset clauses:

Potential sunset clauses should take into account the time scale needed for all related technologies to develop (eg satellite projects have longer lifecycles). A too rapid review cycle may lead to the de fact exclusion of certain technologies, by lack of regulatory certainty to enable their development. Moreover, investors can be discouraged by potential change in spectrum rights (to be handled with extreme precaution).

The text of the consultation seems to support the assumption that a “laissez-faire” approach necessarily encourages innovation. However, new uses should never lead to a lack of regulatory visibility in spectrum management, which would only discourage innovation and investment in services and technology. Therefore, a balance needs to be found on a case-by-case basis.

In practice, certain frequency bands can be more easily opened to usage flexibility than others – each frequency should be re-qualified for the purpose of WAPECS policy making – by pre-identifying spectrum where no interference or usage issues would arise (eg BWA frequencies) and considered separately from other bands. Special WAPECS methods are needed for facilitating such policy decisions. (e.g. fixed vs nomadicty, or problems such as valuation of spectrum vs license renewals, new authorizations e.g. 2G/3G).

In general, the technology neutrality principle should be kept consistent with the ITU frequency allocations, as well as the E.C.A., and take into account the benefits of harmonisation for certain applications (particularly satellite).

Q.8 Are there any other long-term policy goals that the RSPG should consider?

Alcatel Response:

- 1) The EU lacks vital spectrum resources for ever-increasing commercial market applications. New spectrum release targets should be set within the definition of the WAPECS project, to better leverage spectrum availability and accommodate future market potential (e.g. mobile growth).
- 2) EU-wide applications should be facilitated by harmonizing key spectrum resources across all Member states in order for the single market to benefit the development of new radio technologies (similar to the 2G-success story).

In line with the above, special, urgent attention is required at EU level today to prepare for introduction of telecom applications in the UHF bands to freed by the DTT switchover. Such measures should include:

- Agreement on target bands for WAPECS (eg rural mobile applications);
- Common methodology for introducing new applications into the Digital Dividend;
- Further discussions and agreement between all stakeholders as to how the Digital Dividend will be reallocated and under what conditions.

Q.9 Do you think that these steps form an adequate basis for achievement of the European objectives in this area? Are there any other steps that are required?

Alcatel response:

We globally support the proposed steps. Adequate identification of frequency bands should be made by the CEPT, taking into account the existing technical and regulatory status of the bands. Some satellite-allocated bands may be suitable for inclusion in the WAPECS concept as bands qualified for technology neutral and/or service flexible usage, provided that certain technical and regulatory pre-conditions are in place. Moreover, there should be enough flexibility to include new frequency bands into the WAPECS family at a later stage, after the matter has been examined by RSC and CEPT.

To conclude, Alcatel does not believe that a single, uniform management approach can be applicable to the entire spectrum engaged in the WAPECS project, in spite the urgent need to introduce more flexibility in today's current frequency allocation regime. The major advantage of the project is to take all issues abreast under one common umbrella for the purpose of analysis and evaluation, and to enable the definition of criteria to re-qualify spectrum usage based on real needs, innovation or the specific contextual conditions proper to each individual band. A common reference point for coherent, adapted methods applicable on a per case basis and objective, will facilitate and accelerate the spectrum management process, allowing for greater flexibility and optimised usage wherever and whenever possible. Establishing such reference should also be the main goal of the WAPECS project.

ALCATEL NOTA/ cf. additional bands included for reference into the consultation lists (per original text):

a) Broadcasting bands

... of the spectrum currently allocated to broadcasting, three bands are considered suitable for WAPECS, these bands having been identified *for T-DAB (i and iii), DVB-T (i and ii), S-DAB (iv):*

- i) 174 – 230 MHz*
- ii) 470 – 862 MHz*
- iii) 1452 – 1479.5 MHz (T-DAB)*
- iv) 1469.5 – 1492 MHz (S-DAB)*

c) Mobile services

In spectrum currently allocated to land mobile there was a considerable degree of commonality and a wide range of bands considered suitable for WAPECS including:

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|----------------------------|--------------------------------------|
| <i>i) 380 - 400 MHz;</i> | <i>vii) 1710 – 1785 MHz;</i> |
| <i>ii) 410 - 430 MHz;</i> | <i>viii) 1805 – 1880 MHz;</i> |
| <i>iii) 450 - 470 MHz;</i> | <i>ix) 1900 – 1980 MHz;</i> |
| <i>iv) 870 - 876 MHz;</i> | <i>x) 1980 – 2010 MHz (S-UMTS)</i> |
| <i>v) 880 - 921 MHz;</i> | <i>xi) 2010 - 2025 MHz and</i> |
| <i>vi) 925 - 960 MHz;</i> | <i>xii) 2110 – 2170 MHz.</i> |
| | <i>xii) 2170 – 2200 MHz (S-UMTS)</i> |