

Response to the RSPG consultation

Opinion on the spectrum implications of switchover to digital broadcasting

Signatories: Ericsson, Finnet, Orange and Radiolinja

Introduction

The signatories to this contribution welcome the opportunity to express an opinion to the RSPG through this consultation concerning the spectrum implications of switchover to digital TV broadcasting. This EU initiative, of a consultation process in preparation for the Regional Radiocommunication Conference (RRC), starting in May this year, is an important step in Europe to develop a strategic approach in addition to technical considerations before international negotiations, particularly in the framework of the new Electronic Communication regulations favouring the convergence trends.

Discussion

There is a number of spectrum related issues associated with the digital switchover and analogue switch-off that need to be dealt with in a fairly short period of time. Since digital terrestrial TV broadcasting is significantly more spectrum-efficient, analogue switch-off would allow the possibility of releasing spectrum in favour of other services and systems, this is denoted the "digital dividend". This "digital dividend" could be used in the near future for e.g. public mobile communication services and in particular to answer to the end-user's need for coverage and to the obligations of UMTS/IMT-2000 operators. The signatories to this opinion are convinced that a switchover would have a profound and positive effect on the efficiency of radio spectrum usage.

Switchover to digital TV broadcasting is challenging in terms of spectrum management and calls for the revision of existing international framework (e.g. Stockholm agreement and its revisions). The International Telecommunication Union's (ITU) Regional Radiocommunication Conference (RRC-04), to be held in May 2004, and in year 2006, will review the current international allotment plan for terrestrial TV broadcasting in Europe and other Region 1 countries. This is a prerequisite to facilitate the digital transition and prepare the post-switch off scenario. Decisions on spectrum aspects relating to switchover and switch-off require international co-ordination to deal mainly with interference, the efficient use of spectrum and the timing and duration of the switchover period, especially for regions where the spectrum is heavily used.

The transition from analogue to digital TV broadcasting would release some substantial amount of spectrum due to the higher spectrum efficiency of digital technology. This spectrum amount could then be allocated to e.g. public mobile communication networks, and harmonised for evolved UMTS/IMT-2000 systems. The signatories are convinced that the "spectrum dividend" from switch-off would be significant enough to ensure the necessary competition as well as be answering to the needs for coverage in remote and sparsely populated regions. The amount of spectrum which could be refarmed would have to be

further assessed, but could possibly be varying between countries and regions subject to national requirements and market demand.

Opinions

The signatories would like to express an opinion on the following detailed questions raised by RSPG:

Question 1: How can co-ordination between Member States on spectrum management, at bilateral and EU level, contribute to a quick and efficient switchover?

Opinion 1: Generally speaking, spectrum management always requires international co-ordination between countries, regions and other involved parties since there are no such thing as radio frequency spectrum frontiers. The issue of a possible digital dividend that could be identified and clarified are very important for European business for which EU co-ordination is helpful and remedial.

At a time when public radio systems are expected to, offer access over complete territories with ever increasing capabilities and gradually motivated to be more flexible, close cooperation and coordination between Member States on spectrum management is crucial. In fact, the coordinated approach on EU level is essential to fully benefit from European wide harmonisation in terms of an easy introduction of new, pan-European services, economy of scale on equipment and services, providing market driven usage and increased global spectrum efficiency. It will allow also an improved coordination in border areas and an improved global competitiveness of the whole European market.

The coordinated approach on EU level is essential from many points of view:

- easy to introduce new systems which would be available European wide;
- economy of scale in regard to equipment, applications and services;
- increased spectrum usage and capacity in border areas;
- enhanced regional or global spectrum efficiency, and
- improved regional competition on the European market and global competitiveness in terms of European equipment, applications and services.

Question 2: In particular, what would be the added value from EU co-ordination ahead of the Radio Regional Conference starting in 2004 and other international negotiations?

Opinion 2: The added value of EU coordination prior to the Regional Radiocommunication Conference is unquestionable; particularly, if a liberal and market driven approach would be adopted by the EU process. Such EU coordination could ensure that the RRC, when establishing the New Digital Plan, is sufficiently forward looking to allow for other systems, applications and services. This would be possible after a partial, or certainly after the complete, switch off of analogue TV broadcasting, as a benefit related to the transition from analogue to digital techniques. All or parts of this digital dividend spectrum should be identified on a harmonised basis. The signatories strongly support frequency harmonisation on global or regional level, or at least on Community level. To that extent, the Article 9.2 of the Framework Directive states "Member States shall promote the harmonisation of use of radio frequencies across the Community, consistent with the need to ensure effective and efficient use thereof and in accordance with the Decision No. 676/2002/EC (Radio Spectrum Decision)". This harmonisation and the subsequent economy of scale, is beneficial to the whole industry and to the end-users. Harmonisation also facilitates the availability of capable equipment at reasonable cost and timeframe.

Question 3: Are greater transparency and technological neutrality of spectrum assignment, notably through valuation and market tools, instrumental to switchover?

Opinion 3: In the context of convergence where services are delivered by broadcasting operators, and similar services are provided by fixed and mobile operators, together with new approaches which may emerge driven by market and technology evolutions, the framework for spectrum assignment must therefore be set up with greater transparency and technological neutrality. Non-discrimination between these different categories of market players in terms of rights and obligations, attached to rights of use of radio spectrum, is essential in order to avoid competitive distortion between the players operating on the same markets and avoid limiting freedom of choice for consumers.

The signatories believe that the efficient use of the radio spectrum and the development of new services and technologies require the application of fair and similar spectrum fees, as well as spectrum assignment methods to all players providing electronic communications networks and services in the EU countries.

Finally, the implementation of secondary trading of rights to use radio spectrum in broadcasting bands should increase the flexibility, and thus the efficiency, of the use of the spectrum and facilitate the development of those services that are the most likely to meet the end-users' needs.

As an example, on how the broadcasting TV band could be arranged after the possible digital switchover:

in a sub-band, designating that part to a generic downlink (broadcasting is a typical downlink system):

for advanced public digital broadcasting, fixed and mobile systems which would use the main part of the band and be designated in upper part of the band.

in a sub-band, designating that part to a generic uplink (a return link is a typical uplink system):

for advanced public digital broadcasting, fixed and mobile systems which could be designated in the lower part of the band, and could in particular provide a return link envisaged for interactive broadcasting,

Question 4: What will be the "spectrum dividend" from switch-off, and how should this be allocated to specific services?

Opinion 4: Terrestrial digital TV broadcasting technology offers a number of benefits in comparison to terrestrial analogue TV broadcasting and in particular a more efficient use of frequency resources. In fact more information can be transmitted using less radio spectrum. The switch-off of the analogue services gives the possibility to obtain some released spectrum, called "digital dividend".

The migration from analogue to digital TV transmission technology is enabling more efficient usage of the radio spectrum. According to the ITU Radiocommunication sector (ITU-R) Study

Group 1 (SG1) “Digital television is approximately four times more efficient than analogue television in the broadcasting service.”

As a consequence, it is expected that the “spectrum dividend” from analogue television switch-off would represent a significant amount of spectrum and that this spectrum could be, in particular, allocated to public mobile communication networks. The frequencies below approximately 600 MHz, could due to propagation properties be an interesting alternative for operators requiring larger cells and hence would be more cost effective. This frequency range is recognized in ITU-R during the World Radiocommunication Conference year 2003 (WRC-03) for further study.

The signatories believe that there is a need for harmonised spectrum in the TV bands below approximately 600 MHz in order to extend the coverage of UMTS/IMT-2000 services in an cost effective way, particularly for remote and sparsely populated regions. The released portion of spectrum should be large enough to allow fair competitive conditions between operators.

Although it may be difficult for the first session of the RRC to identify what this digital dividend could be, it may be beneficial to consider at this stage of the preparation the possible advantages of harmonisation. It is necessary to take appropriate measures well in advance to ensure harmonised approach for this digital dividend, so that Europe could take advantage of economy of scale; improved spectrum coordination between countries and interoperability, among other benefits.

Question 5: Does convergence require more flexible allocation mechanisms than traditional ones, which tightly link frequency bands and individual communication services according to ex ante decisions?

Opinion 5: Convergence and rapid technological evolution require the possibility to use the spectrum in a more flexible way. Thus, more "technology neutral" allocation mechanisms seem to be desirable, but special care must be taken when implementing such mechanisms not to hamper the positive effects of global or regional, or at least EU wide harmonisation, in particular for services such as public mobile communications.