

Telecom Italia response to the draft RSPG
Opinion on Review of Spectrum Use
(RSPG11-391)

(10 January 2012)

Introduction

Telecom Italia welcomes the RSPG decision to submit to public consultation its opinion regarding the investigation on the best process for the review of spectrum use.

The process encompasses:

- a) the analysis of spectrum demand;
- b) the analysis of the impact of technology trends on such demand;
- c) the analysis of the spectrum that might meet such demand; and
- d) the assessment of the efficiency of the spectrum usage.

Telecom Italia has always recognized the importance of EU spectrum policy to enhance the quality of European citizens' life by enabling and improving technologies and services (e.g. broadband, digital broadcasting, telemedicine, navigation systems, safety, m-payment etc.) as well as by promoting competition in the markets.

Telecom Italia has, consequently, supported the forward-looking RSPG vision of using appropriate tools to assess the needs for spectrum resources in the long term and the choice of following a "roadmap" going beyond 2015 for the allocation of spectrum in the EU.

In this context, particular attention should be paid to those frequencies and services that could mainly be subject to spectrum shortages, such as the mobile broadband personal communication services, for which the demand is expected to significantly increase over the next years.

Telecom Italia agrees on the importance of analysing the demand of wireless broadband services and the technological trends to determine the actual need of spectrum. The analysis should take into account not only the current demand, but also the possible future demand for the next 10-15 years, since the reallocation process generally requires a long time period.

Therefore, it is fundamental to define suitable policies to provide sufficient frequency resources in order to match the demand and to deliver the greatest collective and economic benefits.

Possible spectrum reallocation process is generally complex and expensive but, as spectrum is a scarce resource, it is necessary to find its optimum allocation to allow the development of wireless broadband services and the associated backhauling which can significantly contribute to meet the 2020 Digital Agenda targets.

Objective and Methodology for the Spectrum Review

Telecom Italia deems that the priority should be given to identifying the spectrum demand necessary to deploy the mobile broadband services.

A long-term strategy should take into account that the frequency bands should be reserved to applications which can efficiently use the spectrum resource and can be beneficial to society. In particular one should prefer those applications which can really bring economic and social benefits. The wireless communication services can grant both of them considering:

- i) the price paid to the States for the spectrum assignment and the revenues coming from wireless communication services;
- ii) the wide range of provided services (personal communication, video content, social networks, etc).

Telecom Italia believes that the spectrum needs rising in the next 5-10 years should be primarily obtained through the unused or severely underused frequency bands.

This would imply:

- 1) the development of procedures at the EU level to constantly monitor the spectrum use, at least in the more interesting bands for mobile broadband; whether some frequency bands were allocated to services that are not fully exploited or severely underused, actions should be taken at European level to reallocate these bands to ECS which can grant the maximum benefits for consumers and society;
- 2) an assessment of the economic results at the EU level, stemming from the allocation of frequencies to other services, in order to be sure that spectrum resources be efficiently exploited; when a service is no more found to fulfil market expectations/needs, the spectrum should be reallocated to more profitable services, provided that social interests as well as the protection of services in adjacent bands are maintained.

In Telecom Italia's opinion, the areas where spectrum use optimization should be investigated are military, aeronautical radar, satellite, broadcasting and public safety sectors. In this respect, the whole frequency range from 300 MHz to 3 GHz might be analysed in order to identify unused assignments and/or inefficient use of spectrum.

The timeframe of spectrum use review should take into account the time to market requirements of the emerging services which need new frequency allocations.

Identifying the responsible entities which should contribute to the review

Telecom Italia agrees with RSPG regarding the need of consulting the stakeholders and the entities representing the stakeholders in the process of assessing the demand and the current use of the spectrum. However, the list of the entities representing the stakeholders reported in the consultation document should include other industry organizations such as GSMA and ETNO as far as the electronic communication domain is concerned. These organizations have a great expertise in the frequency usage and, therefore, they could effectively contribute to the spectrum review.

Assessing Demand for Spectrum

Future demand of spectrum is mainly concentrated in the development of wireless broadband access services, as stated by the RSPG for Europe and highlighted by several international studies (e.g. ITU-R WP5D IMT.UPDATE, FCC Broadband Plan¹ for U.S.A.).

On the contrary, a set of traditional services are expected to need less spectrum thanks to the increased efficiency introduced by the new technologies (i.e. digital video and radio broadcasting) and the decreased customer interest.

In the recent years there has been a dramatic increase in the mobile data traffic driven by new devices that incorporate cellular connectivity (smart phones, tablets, USB dongles, e-book readers, gaming consoles etc) and innovative mobile applications. These devices offer larger screen sizes and higher resolution and, hence, increase data consumption and encourage the use of traffic-intensive applications such as video calling and video streaming.

¹ Connecting America : The National Broadband Plan - Federal Communications Commission (March 2010)

The ITU-R study points out that the demand for mobile data services has grown significantly, with a reported 522% increase in total worldwide mobile data traffic between 2008 and 2010. This growth was notably due to mobile video traffic (which reached 50% of total mobile data traffic in 2010) and to smart phones (which today represent only 13% of total handsets in use but generate almost 80% of the total handset traffic).

The study also foresees that mobile traffic will increase by a factor of 33 (worldwide) from 2010 to 2020, (total worldwide traffic will grow from 3.86 EB to 127.8 EB).

In Europe, the traffic will increase by a factor 23 (traffic will grow from 1.063 EB in 2010 to 28.15 EB in 2020). This growth will be determined by the combination of a higher number of subscriptions and the importance of video traffic.

Quantifying the Supply of Spectrum

Telecom Italia agrees on the need of identifying what spectrum may be available for new wireless broadband access and applications investigating on the occupancy and efficiency of the bands allocated to other services.

Currently, key sources of information on frequencies are the national databases and the national entities managing spectrum resources.

Information about needs, constraints and availability on spectrum allocated to Electronic Communications is already completely available to the public administrations.

On the contrary, it is urgent for the national administrations to establish an effective and fruitful interaction with stakeholders to get information about the spectrum usage outside the electronic communications sector.

In particular, the level of detail of available information should be more homogeneous, while, at today, only the information regarding ECS is fully accessible and available.

Anyhow, the amount and detail of information to be provided by the Member States in order to provide accurate and exploitable information at the EU level has to be set balancing the real needs with the costs to provide information.

Analysis of the spectrum review (demand and supply)

Current spectrum allocations may meet the increased demand for wireless broadband services and applications only for the medium term.

Consequently, it's urgent to identify frequency bands which are not efficiently used and which can be reallocated to ECS to meet the increased demand of mobile broadband.

The reallocation should be carried out through an easy refarming procedure harmonized at the European level to foster the efficiency and the time to market. The refarming procedure should not require any other financial commitment by operators which have already sustained the costs for the acquisition of spectrum resources.

The spectrum sharing under the LSA (Licensed Shared Access) concept does not seem a solution to meet the increased request for spectrum. Indeed, the LSA has many drawbacks regarding interference issues and it can hardly guarantee the quality level required by ECS and applications. Moreover, the industry seems not very interested in spectrum sharing technologies.

Telecom Italia agrees that the analysis of spectrum review should be done under the European Commission and national administrations responsibility but deems that also the stakeholders should be consulted during the whole process.

Challenges: confidential information

Too detailed information regarding frequencies allocated to public security and defence can not be disclosed in the public database such as the EFIS. Nevertheless, in making information not accessible there is the risk that some bands allocated to defence and security be underused or not efficiently used. This kind of confidential data should be made available to the national authorities who, complying with the national rules on data confidentiality should assess whether the frequencies are used in an efficient manner.