

## ETNO comments on the Draft RSPG Opinion on Strategic Challenges facing Europe in addressing the Growing Spectrum Demand for Wireless Broadband



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### Executive Summary

ETNO welcomes the opportunity to comment the draft RSPG opinion on Wireless Broadband as we believe that frequencies for WBB need forward looking strategy in Europe.

As general guiding principles ETNO believes that the identified frequency bands for WBB should be globally harmonised and national deviations should be minimised.

As the economy of scale is another import aspect to be considered, the industry should commit itself to ensure a complete ecosystem.

ETNO believes that licensed and un-licensed spectrum should be considered complementary and not as substitutes. In the short and mid-term, the Public cellular mobile networks primarily need further exclusive licensed spectrum access in order to offer reliable communication services with a high quality of service nationwide. In the long term ETNO agrees that the identification of further spectrum to destine to unlicensed uses, such as WiFi, will be needed also. However, any consideration of allocation of unlicensed spectrum should take into careful consideration the overall balance of spectrum's alternative uses within WBB allocations.

Concerning the UHF band, ETNO believes that it is very important to define a channel plan for the 700 MHz band compatible with APT plan and so to be able to harmonise it with possible extensions downwards.

The development of a long-term strategic policy on the future convergence shall, however, not delay the preparatory work regarding the allocation of the 700 MHz band for the mobile service at the WRC-15. ETNO believes that, in the long-term, terrestrial spectrum in the lower frequencies band should be predominantly destined to WBB applications.

## Introduction

ETNO welcomes the Radio Spectrum Policy Group invitation to express comments and views in relation to the draft RSPG Opinion on Strategic Challenges facing Europe in addressing the Growing Spectrum Demand for Wireless Broadband.

The growing spectrum demand is a key issue and solutions that will be identified will affect the uptake of Mobile Wireless Broadband service for the decades to come.

This explains the high interest and high priority that all the stakeholders are reserving to it.

## General Remarks

ETNO agrees that a forward looking strategy for frequencies in Europe should address the 2020 target and not only the 2015, considered as a first step of the RSPP. Therefore, ETNO agrees with the requests done to the RSPG by the European Commission.

In considering the identification of frequency bands for Wireless Broadband (WBB) services ETNO emphasizes that the following guiding principles should be applied:

- The use of frequency bands for WBB applications should be harmonized - at least on a European level, but preferably worldwide.
- National deviations in the allocation of spectrum for WBB should be minimized.
- In allocating and harmonizing new spectrum for WBB there should be a clear commitment from the industry side, ensuring the availability of a complete WBB ecosystem on short term (network equipment, M2M equipment, devices like tablets, dongles, handsets in general, etc.).
- In the draft opinion spectrum for public cellular mobile and for WiFi are summed up as spectrum for WBB. However, spectrum for these applications should clearly be separated. Public cellular mobile networks primarily need exclusive licensed spectrum access in order to offer reliable communication services with a high quality of service nationwide. Exclusive access has proven to be capable to enable an effective interference management which is essential for an operator for offering an appropriate quality-of-service to its customers.

## ETNO Comments

### **Trends in consumer behavior and demand**

ETNO agrees that the extreme upload/download ratio (up to 1:10 as described in the cited Report 188) may happen in some specific situations, with specific application/services.

The download/upload ratio is a parameter that can vary during the day, during different seasons, in geography, in trend, and from one operator to another. Therefore it would be really advisable to avoid unworkable limitations on asymmetry, as they would risk to distort the market deployment. Fixing it to such high ratios would risk to limit the network flexibility (as it can't be varied once it is decided for synchronisation problems).

### **Trends in technology**

Femtocells are used to fill coverage holes (indoor, underground) as well as for capacity reasons. Therefore both aspects should be highlighted.

### **Differences in member states**

ETNO recognizes the differences between Member States in market situation, geography (ratio of urban / rural areas), level of utilization of spectrum and other differences which could lead, in general, to a lower level of harmonisation.

Nevertheless ETNO advocates to aim for a maximum level of harmonisation, considering acceptable a flexible implementation of harmonisation whenever decided, but keeping in mind that the "final" target should be a complete harmonisation of the selected frequency bands. As successfully applied in the past, this can result in phased spectrum assignments and network rollouts across Member States based on prior agreed common band plans.

### **Unused TDD spectrum**

The draft opinion refers to the RSPG 2011 report (RSPG11-393) and suggests that the under-utilisation of TDD spectrum in Europe is the result of, among others, co-existence issues with the FDD systems in close spectral proximity and the fact that 20 MHz was considered to be too little bandwidth. ETNO notes that these factors alone cannot explain the lack of uptake of the use of the 3.5 GHz band for WBB - where these proximity issues are not present.

ETNO believes that the cause of under-utilisation is of a more technical nature. FDD systems have shown an enormous uptake

because of their technical characteristics, maturity and because they do not present the synchronisation problems of the TDD systems in multi-operator environment. This has also resulted in a lack of suitable equipment for ITU-R Region 1, as in Europe the multi-operator environment would be the typical situation. ETNO however expects a significantly larger role for unpaired bands in future now being properly addressed technology-wise by LTE with its fully integrated TDD mode and the DL carrier aggregation option of LTE-Advanced.

### **Wi-Fi and unlicensed spectrum**

ETNO members consider that overall WiFi will continue to play an important role in driving mobility and nomadic use of wireless devices.

At the same time ETNO believes that spectrum already allocated for WiFi is sufficient for the scope of mobile networks offload in the short and mid-term. Even if the 2.4 GHz band starts showing indications of congestion in some locations, ETNO notes that the 5 GHz band is under-utilized for WiFi, and it offers capacity for expanding the operators' networks.

ETNO notes that in some Member States already parts of the WBB spectrum have an unlicensed allocation for low-power WBB applications (e.g. 2\*5 MHz in the 1800 MHz band in the Netherlands).

Furthermore once a frequency band is identified for unlicensed applications it will be very difficult, if not even impossible, to re-farm it for decades, before the complete phase out of equipment that could cause interference problems.

Therefore ETNO is of the opinion that new unlicensed spectrum should only be identified in the long term to allow a wider expansion of WiFi.

### **Key frequency bands**

ETNO supports the harmonisation of spectrum usage. However any initiatives aiming towards a change of allocation should require a very careful approach and should be done after a detailed impact assessment and compatibility studies are performed.

A prioritization of the frequency bands should be done to focus the efforts on specific bands.

#### **470-790 MHz**

As it is considered a very important band, ETNO would welcome and participate to any initiative aiming the development of a long-term strategic policy on the future convergence between broadcasting and

mobile platforms and the delivering of media/audiovisual services and high-audience video and data to mobile devices.

In doing so it is very important to define a channel plan for the 700 MHz band compatible with APT plan and so to be able to harmonise it with possible extensions downwards. The development of a long-term strategic policy on the future convergence shall not delay the preparatory work regarding the allocation of the 700 MHz band for the mobile service in the context of WRC-15 agenda item 1.2.

Furthermore ETNO has already expressed the view that some very bandwidth-hungry services like UHDTV and 3DTV are better suited for different distribution means like cable, or satellite instead of UHF aerial distribution and therefore agrees with the RSPG that sometimes wireless and wireline technologies compete with each other, but, in other cases like this one, they are complementary. In the long term terrestrial spectrum in the lower frequency bands should predominantly be used for mobile applications

ETNO supports the creation of incentives to ensure a more efficient spectrum use, bearing in mind the concepts of technology and service neutrality.

#### **1375-1518 MHz**

ETNO agrees that this band has potential for WBB. Any measure to promote the use of this band, as for example for technical solution like SDL, should be adopted with the ITU procedures.

#### **1980-2010 MHz/2170-2200 MHz (MSS with CGC)**

The existing satellite licensees are demonstrating that satellite systems are not mature and not economically feasible. Therefore ETNO is of the opinion that Europe should reconsider the two licenses given and propose to reallocate the bands to terrestrial mobile service, to be licensed as any other terrestrial mobile frequency band.

#### **2300-2400 MHz**

ETNO is considering and participating in the activities related to the introduction of the LSA concept in this band.

ETNO is of the opinion that LSA could be a way to increase the overall amount of frequencies available for IMT systems. LSA concept maybe applied to share with other users the frequency bands already identified by ITU for IMT but currently used by other services.

Under the assumption that compatibility among services/systems is proven feasible, LSA may be applied to share frequency bands that otherwise cannot be exploited for commercial purposes in the short term.

### **3800 - 4200 MHz**

Although being attractive in terms of dimension, ETNO believes that sharing possibilities with satellite and terrestrial services are very low in this band.