WAPECS – a flexible approach to spectrum use

With the rapid technology advance that characterises ICT, regulatory procedures must more easily adapt, to support rapid market evolution and encourage innovative services. The WAPECS approach is paving the way for more flexible radio spectrum management in Europe.

Radio spectrum management across Europe needs to adapt to allow spectrum users (network operators) to make timely decisions on how to use available spectrum, responding to market evolution and new technology opportunities.

The EU regulatory framework should recognise that technologies and services are converging: and work to support a competitive and innovative environment.

Wireless Access Policy for Electronic Communications Services (WAPECS) is the term coined by the Commission for transmission platforms used for radio access to electronic communications services, regardless of the bands in which they operate or the technology they use.

At present, deployment of innovative wireless services and technologies is hampered by the reservation of certain useful frequency bands for quite narrowly defined services. This, coupled with rigid usage conditions, is holding back the efficient use of radio spectrum and inhibiting new technologies.

Practical steps

WAPECS is about the practical steps which can be taken now to pave the way towards more flexible spectrum use in the near future.

Avoiding interference will remain a key element of spectrum management, but the way this can be achieved has evolved thanks to rapid technological progress. The main objectives of WAPECS are to achieve improved technical and economic efficiencies in the market.

Preparing for this new approach calls for a "step-by-step" introduction of flexible spectrum management. This entails identifying specific spectrum bands where regulatory restrictions can be lifted to introduce competition: including competition between different radio infrastructures.

A total of 1350 MHz of bandwidth has been identified as a first set of bands in which legal restrictions could be re-examined to permit more flexible usage. The bands are currently used by a variety of broadcasting, mobile and information technology sectors.

An EU-wide set of proportionate rights and authorisation conditions must be agreed that would represent the minimum necessary to allow flexible and efficient usage without interference between services. These conditions would also need to facilitate the gradual readjustment of existing rights (legacy rights) held by spectrum users.

Real world issues

A number of current issues can benefit from the WAPECS approach to more flexible spectrum management:

- Existing and new operators wish to implement different technologies (UMTS, WiMAX etc.) via the 2.6 GHz band from 2008 for wireless access to the Internet.
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Existing second generation (2G) mobile operators want to enhance their current use of the 900 MHz GSM band to deploy new services using 3G mobile technologies.

- Existing and new operators want to use the 470-862 MHz band currently used for broadcasting, where the move from analogue to digital broadcasting will provide a 'digital dividend', for new services such as mobile TV and extending wireless electronic communication services into rural areas.

These cases need to be addressed quickly and coherently to secure innovation, investment and a dynamic electronic communications sector. They also offer the opportunity to gradually introduce the new flexible spectrum usage approach.

Initial frequencies for flexibility

The following bands are being investigated for the implementation of more flexibility. Total bandwidth under consideration is 1350 MHz.

- 470-862 MHz: used for broadcasting today; (see also **digital dividend** [1])
- 880-915 MHz / 925-960 MHz as well as 1710-1785 MHz / 1805-1880 MHz: these bands form the 900/1800 network for GSM mobile services today; (see also **900/1800 MHz** [2])
- 1900-1980 MHz / 2010-2025 MHz / 2110-2170 MHz: these bands are used for third generation (3G) mobile services (IMT-2000/UMTS) today;
- 2500-2690 MHz (the 2.6 GHz band): this band (still to be licensed) is intended for use by 3G mobile services (IMT-2000/UMTS); (see also **Mobile Broadband** [3])
- 3.4-3.8 GHz: this band is used for broadband connections to customers; it is also intensively used for satellite communications in Russia and some African countries. (see also **Mobile Broadband** [3]).

More information

- **European Commission Communication** [4] COM(2007)50 on rapid access to spectrum for wireless electronic communications services through more flexibility
- **Radio Spectrum Policy Group Opinion** [5] RSPG05-102 on Wireless Access Policy for Electronic Communications Services (WAPECS) (A more flexible spectrum management approach)

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