



Results* of the Digital Assembly workshop on:

Spectrum for Wireless Innovation in Europe

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** Disclaimer: The results and recommendations are the conclusions of the workshop participants and cannot be regarded as stating an official position of the European Commission.*



Spectrum for Wireless Innovation in Europe *“Identifying spectrum priorities and key challenges to take full advantage of wireless innovations in the fields of eHealth, Transport and Smart Grids” (Actions 019, 044, 049)*

Purpose of this workshop

To identify a set of “Stakeholder recommendations” to ensure the possibility of spectrum access to enable Europe to achieve the full economic and social benefits from wireless innovation in key sectors beyond telecoms

Status of progress and challenges reported in the workshop

*Key requirements of all three sectors are **assessments of further spectrum needs, modifications of existing usage conditions and identification of harmonised bands for innovative applications.***

Stakeholders’ actions and commitments mentioned in the workshop

***Stakeholders will assess sharing opportunities** before examining whether/how much “dedicated” spectrum is required to release the full economic benefits of wireless innovations that cannot be met using commercial networks*

***Regulators will ensure that the economic and societal benefits** (rather than only technical interference) and technological improvements are taken into account when assessing stakeholder requirements **and will provide access to harmonised spectrum** across the EU on a timely basis, where needed; whilst also taking into account international aspects.*



Wireless eHealth: *Further assessment of future spectrum needs, as well as modification of regulatory/usage conditions in current frequency bands and investigation in new “medical bands”*

Key aspects

Wireless eHealth applications are used for monitoring a patient’s condition. Their **seamless functioning and reliability are paramount** requirements to fulfil this task. A key issue is to ensure protection from harmful interference which can deteriorate their function. Sufficient bandwidth is important for transmission of patient’s data.

Medical Body Area Networks (MBANs) are an emerging and innovative wireless eHealth application. Harmonised spectrum should allow for re-use of existing technology solutions. Powerline transmission (PLT) intermodulation and harmonics needs careful attention.

Recommendations

Further assessments are required: Identify difficulties/issues with existing bands used for healthcare applications. Assess need for dedicated spectrum e.g. for MBANs. Establish dedicated EU dialog between users, industry, regulators on innovation in wireless healthcare and to discuss issues/future spectrum needs.

Potential modification of usage conditions: Identify steps to provide ULP-AMIs with legal certainty of protection from other SRD equipment, digital systems and ISM devices. Ensure any EMC standard for PLT protects against harmful radiation in 400-406MHz band.



Intelligent Transport Systems: *On-going need for flexible but harmonised spectrum access in several frequency bands to support seamless transfer of real-time data and to ensure Europe is competitive*

Key aspects

ITS is a high priority policy area in Europe, and the EU has issued an ITS Action Plan and Directive with the aim of: (i) improving road safety through a reduction of serious road accidents, (ii) enhancing sustainability through reduction in carbon emissions and increased transport efficiency.

Spectrum availability is probably sufficient for early phases – but will need extension when user numbers increase.

Usage restrictions on 5.9GHz band should be aligned with USA/Canada to ensure Europe is not put at a competitive disadvantage.

Recommendations

Regulatory conditions for the use of existing ITS frequencies should be reviewed in view of the economic and societal benefits arising from widespread adoption of ITS taking account of the impact on existing uses – examples of issues that could be considered are:

- does the 5.9GHz spectrum range need to be fully licence-exempt in all European countries?
- do the usage restrictions need to be reduced for the 5 855-5 875, 5 905-5 925 and 5 470-5 725 MHz bands?
- do all current European spectrum allocations for Short-Range Devices need to be maintained?



Smart Grids: *Validation of the mix of technologies and spectrum needed for widespread and reliable connectivity across the grid and identification of measures to achieve implementation across the EU*

Key aspects

Smart Grids and Smart Metering are key to achieving the Europe 2020 strategy:

- 20% reduction in EU greenhouse gas emissions compared with 1990;
- increase in renewable energy to 20% of all energy consumed;
- 20% increase in energy efficiency.

Private radio communications networks will be needed in addition to use of commercial networks in order to provide sufficient reliability and widespread coverage.

A mix of dedicated spectrum, shared spectrum and lightly regulated/licence-exempt spectrum is needed, including at frequencies below 1GHz.

Recommendations

Further work should be undertaken to review the assessments made in preliminary studies identifying the spectrum requirements to provide the required coverage and resilience and cost effectiveness needed to support Smart Grids and **identifying what additional steps are required.**

Implementation measures should be identified for harmonising availability of the required spectrum across the EU.