Promoting the Shared Use of Radio Spectrum

Joint ECC/ETSI/COST-TERRA Workshop on Cognitive Radio and Software Defined Radio: Policy and Regulations

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* Disclaimer: the views expressed are those of the author and cannot be regarded as stating an official position of the European Commission

Policy Context

Maximising the socio-economic and environmental benefits that can be generated through the use of radio spectrum

- Radio Spectrum Policy Programme (RSPP): "… to foster the collective use of spectrum as well as the shared use of spectrum"

Ensuring radio spectrum contributes to broadband targets

- Digital Agenda for Europe (DAE): "… to ensure the coordinated allocation of the spectrum needed to meet the target of 100% coverage of 30 Mbps by 2020

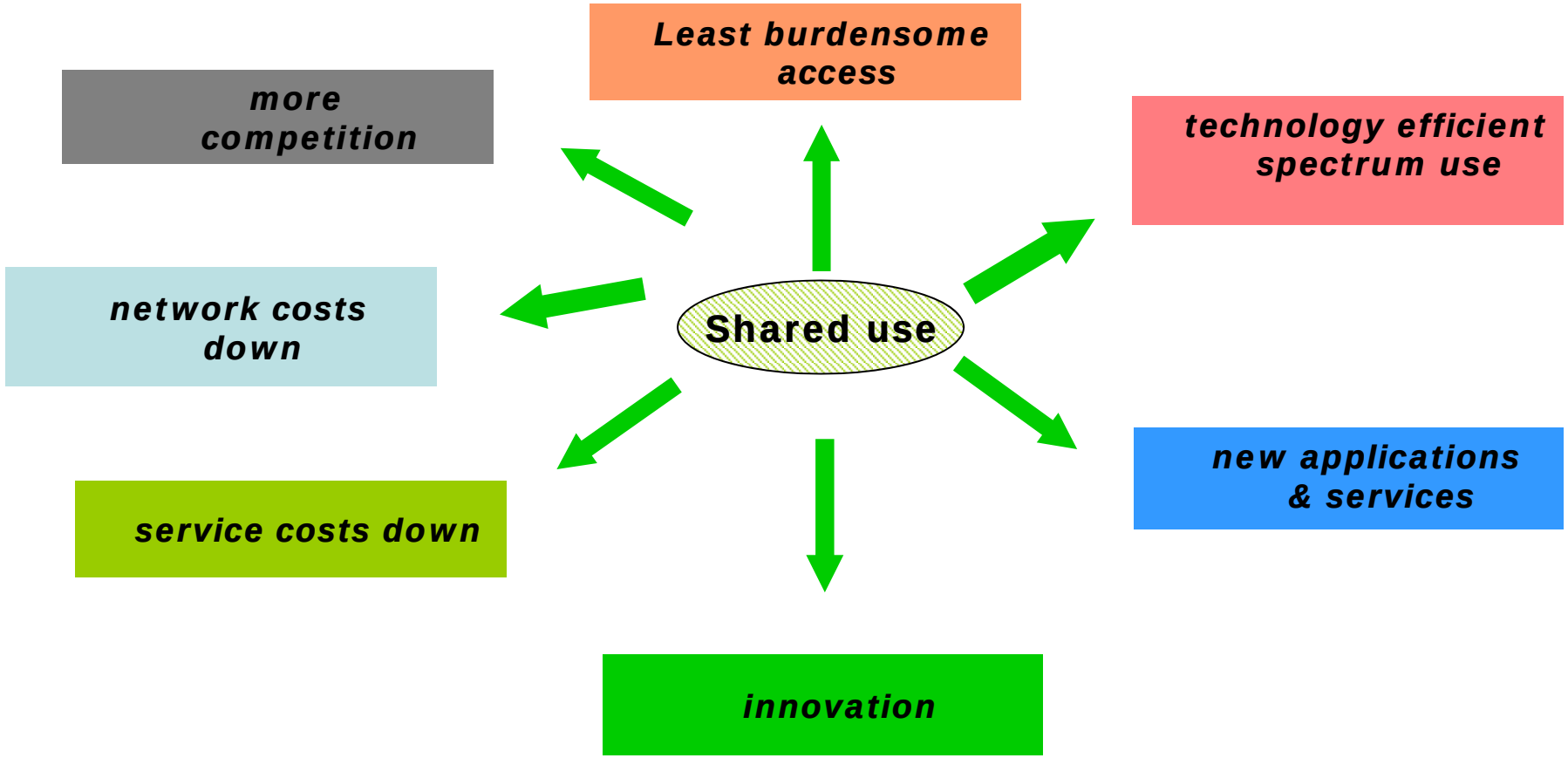
Fostering wireless innovation in Europe

- RSPP: "… to foster the development of current and new technologies, for example in cognitive radio, including those using white spaces".

Supporting sustainable growth in the internal market

- The Europe 2020 Strategy sets environmental objectives for a sustainable, energy-efficient and competitive economy. Wireless technologies can play a key role in meeting these objectives

Benefits of the shared use



Meeting Spectrum Demands

- Radio spectrum is a valuable and finite resource.
- But it can be re-used more efficiently with advances in technology.
- By promoting the shared use of spectrum resources, we can take advantage of wireless innovation to realise additional spectrum capacity

if different users can re-use the same frequency band for their specific purposes*

- Spectrum sharing technologies dynamically take advantage of the geographical, the frequency and the time dimension of the radio spectrum.
- To foster dynamic spectrum access in the EU, we therefore need a regulatory environment for the internal market that enables shared spectrum access.**

* Commission funded study on "Perspectives on the value of shared spectrum access" (April 2012)

** "Shared spectrum access" is authorised if two or more users or wireless applications are allowed to use the same range of frequencies on the basis of a defined sharing arrangement

Policy issues to be addressed

- How to incentivise the use of mitigation technologies to ensure quality of service and to enable more shared use?
- How to reassure spectrum holders that they can better exploit their spectrum assets through the use of innovative radio technologies to share spectrum?
- How to provide sharers with legal certainty and predictability about rules and conditions? How to preserve competition?
- Do we have all the regulatory tools in place to enable economies of scale in the internal market?

harmonised licence-exempt bands

vs.

Licensed shared access (LSA) as described by the RSPG*

* RSPG11-392: Report on collective use of spectrum and other sharing approaches (November 2011)

Towards an Innovation Friendly Framework

To better exploit opportunities for sharing spectrum resources and to foster wireless innovation in Europe, we need:

- Spectrum access **opportunities for innovative technologies**, such as cognitive radio (CR) or software defined radio (SDR)
- Reassurances to encourage **greater and more efficient sharing** of spectrum, i.e. based on geolocation databases
- Incentives to **make better use of existing spectrum resources**, e.g. by via Licensed Shared Spectrum ("LSA") agreements

*Under the RSPP the Commission will propose to work towards an internal market in which **innovative technical solutions can underpin the shared use of spectrum resources wherever they allow for a more efficient use**.*

Next Steps

Commission Communication (July 2012)

- Seeking a **common understanding** of the economic, technical, and regulatory aspects of different modes of spectrum sharing
- Setting out a **strategy to promote shared access to spectrum** in the internal market and to foster best practices
- Sending a clear signal to innovators that Europe is moving toward an **advanced regulatory environment for wireless innovations** that can share spectrum

Thank you for your attention!

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