

## **Response of Bouygues Telecom to The Public Consultation/ draft RSPG opinion on “RSPG OPINION ON COGNITIVE TECHNOLOGIES”**

Paris, 14<sup>th</sup> January 2011

Bouygues Telecom would like to thank the Radio Spectrum Policy Group (RSPG) for giving stakeholders the opportunity to comment on the draft opinion on "COGNITIVE TECHNOLOGIES" and would like to highlight the following points:

### **Summary**

- The Opinion is restrictive by limiting the implementation of Radio Cognitive technologies to spectrum sharing between licensed and unlicensed systems and does not take into account the existing systems which already present Cognitive capabilities.
- The Radio Spectrum Policy Group Opinion should ensure that the rights granted to operators are stable enough to ensure a framework favourable to develop their networks and their offers. In particular, the initiative suggesting that spectrum should be opened to low power devices and shared through general authorization scheme may be detrimental to the operators which have invested intensively to deploy nationwide networks.
- The Radio Spectrum Policy Group must take into account the approach where two types of systems are deployed each one under a specific license basis (individual or general authorisations). The Radio Spectrum Group, in his opinion, should clarify this point. Therefore, the RSPG must avoid falling into a regulatory context where CR is requesting a mix of licences schemes.
- The Radio Spectrum Policy Group should recognize that at this stage of knowledge, commercial viability of CR in UHF band (470-790 MHz) is uncertain and unproven. Therefore, the technical studies made by CEPT (SE43) must be carried out deeper and take into account the protection of other services in boundaries of CR deployment.
- The research proposed by the Radio Spectrum Group must be done in some frequency bands preferentially unused, limited and defined beforehand, in order to avoid undue constraints. In this context, Government bands such as used by Defence should be good candidates for development of Cognitive Radio based on an unlicensed scheme.

Cognitive radio systems should not be allowed to operate in licensed bands where they impact negatively the rights of existing licence-holders, such as radio mobile operator.

Moreover, the European regulatory framework should consider that a mix of licenses (individual and general) is not the right way to allow spectrum for CR systems.

## **COMMENTS ON THE DRAFT OPINION OF THE RSPG**

Our understanding is that RSPG mixes the technical aspects of cognitive radio and the use of this technology as an enabler for new spectrum usages (which has an impact on the regulatory framework). In particular, the RSPG Opinion is linking Cognitive Radio with spectrum sharing. It should be noted first that CR is a technology already available for systems operating according to the current regulatory framework. Such examples are:

- RLAN operation in the 5GHz band avoiding interferences with radars by using Dynamic Frequency Selection mechanism (under general authorisation scheme)
- Overlaying of macro-cells and femto-cells for mobile service under individual licence basis
- On the contrary to the Opinion, the Cognitive capability is showing smooth and incremental developments within existing systems and could not be presented as a new and disruptive technology.

Both examples shows that different cognitive techniques are deployed each one under individual or general licenses basis, and we suggest that RSPG must take into account this approach. RSPG should avoid falling into a regulatory context where CR is requesting a mix of licences schemes. For incumbent operators (who have rights granted by individual licences) this point must be guaranteed by legal opinion of the RSPG. Bouygues Telecom considers therefore, there is no need to modify the current regulatory framework that guarantees legal stability for operators holders of individual licenses.

However, Bouygues Telecom supports the RSPG recommendation that Members States should be “autonomous” to implement measures to introduce the CR technologies in some frequency bands.

Second Recommend: regarding the research activities, we support the idea that this research must be done in some frequency bands defined beforehand. In order to avoid undue constraints, the bands submitted to trials should be limited and preferentially unused. In this context, Government bands such as used by Defence should be good candidates for development of Cognitive Radio based on an unlicensed scheme. Indeed these bands present greater possibilities to be shared than those who are allocated to commercial usages.

Recommends 3 and 4: concerning the database approach, Bouygues Telecom supports the RSPG point of view. That database combined with geolocation techniques could be the appropriate solution to inform of spectrum availability. However, the access to the database must be based on a European harmonized and standardized approach. It is therefore important that the management use and design must be carried out very carefully in order to protect the personal and confidential data.

The sensing approach has not proven its capability to ensure the protection of primary services. For instance, the DFS used by 5 GHz RLAN is showing regularly is limit to detect and avoid frequencies in which radars are deployed. The cost inherent to a performing DFS mechanism is certainly a limiting factor.

Recommend 5: « *that Administrations, in relation with the EC and TCAM, should give to ETSI relevant information on suitable data elements, equipment behaviour and output signal radio characteristics which will allow ETSI to develop harmonised standards;* »

Bouygues Telecom would like to propose to delete this recommend. It is premature to propose to develop harmonized standards since the development of CR radios in UHF bands for instance, is not identified as appropriate.

Bouygues Telecom is proposing the Opinion should limit the use of CR radios based on unlicensed scheme to the Government bands first and then propose to develop Harmonized standards when the technical parameters will be defined appropriately by CEPT.

Finally, by this consultation Bouygues Telecom suggest that RSPG Opinion defines exactly what a Cognitive Radio is, (especially how it is different from current technologies) and that RSPG better distinguishes between technological matters and regulatory matters.