CEPT Workshop on Machine-To-Machine Communications (M2M)

- Views of French Administration

Mainz, Germany 21-22 March 2016

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CEPT WORKSHOP ON MACHINE-TO-MACHINE COMMUNICATIONS (M2M)

• VIEWS OF FRENCH ADMINISTRATION

01. **UNDERSTAND THE DEMAND….**

APPLICATIONS AND STAKEHOLDERS
SPECTRUM DEMANDS AND REQUIREMENTS…

02**. IDENTIFICATION OF REGULATORY CHALLENGES**

03. **EXISTING REGULATORY OPPORTUNITIES**

04**. A STEP FORWARD ….**

01. Understand the demand….

M2M, IoT, IoE application type…

M2M communication assumes a communication between 2 devices and includes all « Smart » applications but not restricted to…

Smartmetering, Smart Grid, Smart Cities, Smart Home, Smart Mobility, Smart X…..

M2M, IoT, IoE actors…

Requests from a large scale of actors such as SRD industry, mobile telco operators, utilities, car manufacturing industry…

Very high deployment scenarios in urban area but also rural environment for different types of application

01. Understand the demand….

Spectrum demands and requirements…

Requests are multiple based on different technologies,
UNB (e.g. LTN) versus Wide Band (e.g. IEEE 802.11ah) technologies

Different QoS requirements,
Non protection basis versus High reliable communications,

Different needs,
High versus low data rate,

Different communication supports,
fixed link, mobile, satellite communications

Spectrum demand and spectrum requirements are highly heterogeneous

01. **Understand the demand….**

….but similar deployement constraints

- Battery constraints (Energy saving),
- Antenna size constraint (small object),
- Low power,
- Low cost,
- Frequency below 1 GHz,
- Asymmetry of the link (Downlink bandwidth demand is greater than for the uplink),

The Spectrum regulation should take into account these requirements, and also take into account the heterogeneous demand and the massive deployment of these applications

02. Identification of Spectrum regulatory challenges

- **One Spectrum regulation framework cannot meet all the requirements;**
  … a set of Spectrum regulatory solutions is required !

- **Opportunities should be offered both under a general and individual authorisations;**

- **Special care should be given when defining a general authorisation based solution and especially dealing with technology neutrality !**

- **Defining balanced solutions permitting all actors to operate with equal chance to access to spectrum (mixing low and high power solutions in a same band is not desired);**

- **Investigating hybrid regulatory solutions including satellite support**

- **How to respond to the unbalanced requirements between uplink and downlink ?**

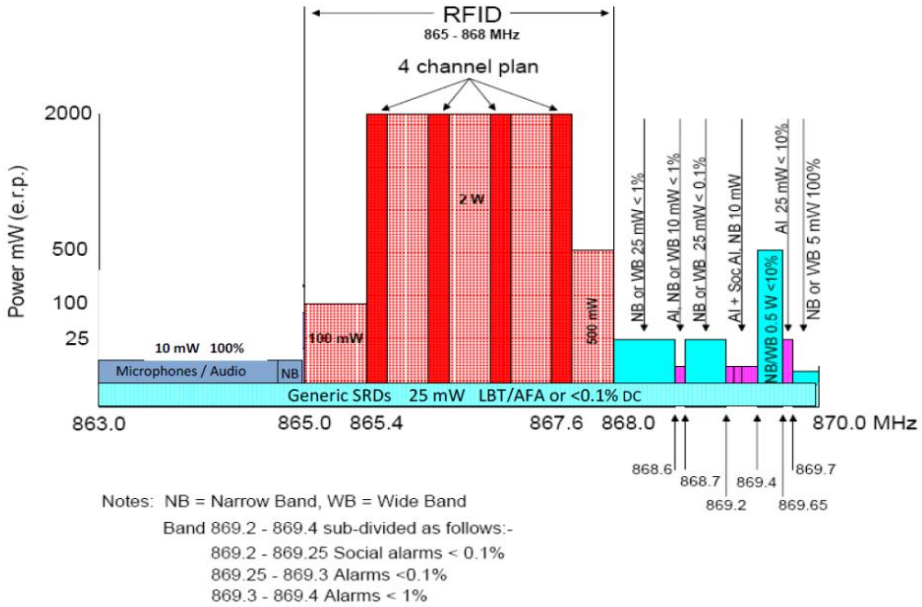
- **Market surveillance issue for SRD (Key role the <u>duty cycle restrictions</u>)**

- **European Harmonisation**

03. Existing Spectrum regulatory opportunities

- **Individual authorisation**
  - **Private mobile network;**
  - **Commercial mobile network;**
  - **Fixed service frequencies;**
  - **Satellite frequencies;**

- **General autorisation**
  - **169 MHz, 433 MHz, 863-868 MHz and 2,4 GHz band.**



04. A **Step forward ….**

- **National investigations in UHF frequency bands under general authorisation**
  - **Main targeted bands: 870-876 MHz, 915-921 MHz….**
    but also new spectrum regulatory approach within 862-870 MHz
  - **Exploring how SRD applications can share with military applications**
  - **Focus on 915-921 MHz : how to respond to harmonisation needs**
  - **Industry requests to distinguish between low and high power applications**
  - **No demand for GSM-R to use E-GSM-R band**
- **Investigation needed to identify frequency bands for wideband PMR**

Thank you ….

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