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Comments to RSPG document « A Spectrum Roadmap for IoT – Draft Opinion on the Spectrum Aspects of the Internet-of-things (IoT) including M2M »

Eutelsat welcomes the opportunity to contribute to the RSPG draft opinion and would like to offer the following comments:

- The development of IoT/M2M services is correlated to requirements in terms of coverage, energy consumption, mobility, latency and costs, which cannot be met without technological mix. Coverage is one of the most valuable advantages of satellite technology. At an altitude of 500 kilometers, one satellite can see an area of over 2000 km in diameter, whereas the range of a terrestrial radio cell will not go beyond a few dozen kilometers. Satellite technology thereby is well adapted to business activities with broad footprints such as freight logistics, by land, air and sea. It is also relevant to connect far distant places (off-shore platforms, Poles, isolated islands, etc.).

- In this spirit, Eutelsat supports the idea that, in such an innovative field as IoT, "it is important to ensure, in the long term, that access to the spectrum is not a barrier for the entry of new players" (Annex, point 4). Satellite systems are to play a growing part in offering IoT/M2M services, including as complement and back-up for terrestrial networks. Eutelsat is involved in advanced discussions with LPWAN operators and manufacturers regarding future LEO constellations.

- About point 2 page 2, Eutelsat wants to stress that spectrum availability is already an issue for satellite operators and that existing frequencies for satellite use are not sufficient nor always adequate to operate satellite-based IoT/M2M services. These will be best offered using sub-GHz frequencies. For its projects, **Eutelsat evaluates a minimum 2 MHz need by 2019 in the 800/900 MHz bands, in a harmonized approach at the most global level possible. Access to the 862-863 MHz band is being considered within CEPT. In this band, Eutelsat confirms its needs of 1 MHz for its own particular purposes. Access to the 915-921 MHz band is a vital necessity too. In this band also, Eutelsat needs at least 1 MHz.**

- Satellite technology is characterized by specific features implying various stringent constraints. Satellite systems cannot easily cohabit with terrestrial systems in the same spectrum bands as satellite terminals must emit with higher power than terrestrial ones so that the radio signal can reach space. Thus, even if satellite systems, which provide broad coverage, operate with low terminal deployment densities, there are major interference risks at stake. This should be taken in due account in dealing with the "complementary mix of general and individual authorization for spectrum access" (point 5, page 3).

All in all, Eutelsat supports the overall objective of the RSPG draft opinion, provided the above comments, which invite to further consider both the importance of satellite-based IoT/M2M and the corresponding need for exclusive bandwidth, in particular within sub-GHz range.