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Digital Single Market

DSM blog post

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Spectrum needs for Intelligent Transport Systems - join the debate!

To launch the debate on "Spectrum for wireless innovation in Europe" (Digital Agenda Assembly Workshop 17 - #daa11spectrum) Knut Evensen (Chief Technologist, Q-Free ASA) has provided us with his recommendations on the spectrum needs for intelligent transport systems.

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--- Posted by Daniel Kitscha (DG INFSO, Radio Spectrum Policy, Digital Agenda Assembly - Coordinator Workshop 17) on behalf of the author: **Knut Evensen** (Chief Technologist, Q-Free ASA).

To launch the debate on "Spectrum for wireless innovation in Europe" ([Digital Agenda Assembly Workshop 17](#) [1] - [#daa11spectrum](#) [2]) **Knut Evensen** [3] (Chief Technologist, [Q-Free ASA](#) [4]) has provided us with his recommendations on the spectrum needs for intelligent transport systems. Please join the discussion and provide your input by commenting on this blog post until June 10!

SPECTRUM RECOMMENDATIONS FOR INTELLIGENT TRANSPORT SYSTEMS:

1. Background: The ITS sector is one of the high priority policy areas in Europe on two accounts:

- Road Safety; major reduction of serious road accidents
- Sustainability; reduction in carbon emissions and increased transport efficiency

The EU has issued the [ITS Action Plan](#) [5] and an [ITS Directive](#) [6]. These documents call for European-wide deployment before 2017, and national implementation preparations have started. The initiative comes from DG Mobility and Transport (lead), DG Information Society and Media, DG Research, DG Enterprise and Industry, and DG Climate Action.

2. European ITS Spectrum - current harmonised allocations

[EC Decision \(2008/671/EC](#) [7]) on harmonised use of 5 875-5 905 MHz (aka 5.9 GHz) band for safety-related ITS applications. In addition, an ECC decision ([ECC/DEC/\(08\)01](#) [8]) addresses other ITS uses in the 5 905-5 925 MHz band, where there are usage restrictions which may limit usability in the near future. Vehicle devices are licence-exempt because of safety aspects, whilst licensing for roadside devices are defined at national level.

Other main ITS allocations (in [EC Decision 2006/771/EC](#) [9] on Short-range Devices and in EC Decisions [2004/545/EC](#) [10] and [2005/50/EC](#) [11] on automotive Short-range Radars), including Road Transport and Traffic Telematics (RTTT), are as follows:

- 5 795-5 815 MHz (aka 5.8 GHz). Primarily used for road-tolling devices, around 40 million tags in daily use around the world, clear European commercial success story. In the middle of the ISM band, so limited protection is available. Vicinity to the 5.8 GHz band may lead to interference problems.
- 63-64 GHz. Needed for low latency / high reliability vehicle-vehicle control loops (platooning and automated driving). Currently only test systems; waiting for technology to be more mature.
- 24 GHz spectrum range is currently allocated to automotive short-range radars, but with a requirement to move to 79 GHz as a long-term solution.

3. Global situation

USA/Canada have assigned 5 850-5 925 for ITS with significantly lower spectrum mask and usage restrictions. European industry has a disadvantage, and deployment in Europe will be slower and more expensive due to this. The US has a time schedule that aims to legally require 5.9 GHz safety systems on all new vehicles from 2015/2016 onwards.

European car makers have indicated they will follow this also for the European market.

The 5.9 GHz spectrum range is adopted for ITS in many other countries in Asia/Pacific and Middle East. This is important for the industry due to economy of scale and reducing national test regimes for different markets. A global allocation in WRC has been attempted without success, but should be tried again.

4. Recommendations

- (1) 5 855-5 925 MHz needs to be fully licence-exempt for all European countries. UK and several other countries have already made this decision.**
- (2) For the bands 5 855-5 875, 5 905-5 925 and 5 470-5 725 MHz, the sector needs reduced usage restrictions on spectrum mask and listen-before-talk.**
- (3) Current ERC/REC 70-03 SRD allocations need to be maintained.**

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- [3] http://ec.europa.eu/information_society/events/cf/daa11/person.cfm?personid=2935&eventld=daa11
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