

ASECAP POSITION PAPER ON
MANDATE TO CEPT TO STUDY THE
OPERATION OF WAS/RLAN

5 July 2013



ASECAP FULL MEMBERS			Companies*	Km*
Austria		ASFINAG Autobahnen- und Schnellstraßen- Finanzierungs-Aktiengesellschaft	3	2.177,4
Croatia		HUKA Hrvatska Udruga Koncesionara za Autoceste s naplatom cestarine	4	1.250,7
Denmark		SUND & BAELT Holding A/S	2	34
Spain		ASETA Asociación de Sociedades Españolas Concesionarias de Autopistas, Túneles, Puentes y Vías de Peaje	34	3.404,01
France		ASFA Association professionnelle des Sociétés Françaises concessionnaires ou exploitantes d'Autoroutes et d'ouvrages routiers	23	8.891,1
Greece		TEO Fonds Routier National Hellénique	8	1.658,5
Hungary		AKA Alföld Koncessziós Autópálya Zrt.	5	1.111,4
Ireland		ITIA Irish Tolling Industry Association	9	337
Italy		AISCAT Associazione Italiana Società Concessionarie Autostrade e Trafori	26	5.714,5

Norway	 NORVEGFINANS Norske Vegfinansieringsselskapers Forening	NORVEGFINANS Norske Vegfinansieringsselskapers Forening	38	935
Netherlands		N.V.Westerscheldetunnel	1	20
Poland		AWSA Autostrada Wielkopolska	4	468
Portugal		APCAP Associação Portuguesa das Sociedades Concessionárias de Auto-Estradas ou Pontes com Portagens	7	1.719,7
United Kingdom		Macquarie Motorway Group	1	42
Serbia		Public Enterprise "Roads of Serbia"	1	603
Slovenia		DARS Družba za avtoceste v Republiki Sloveniji, d.d.	1	607
ASECAP ASSOCIATE MEMBERS			Companies*	Km*
Germany		TOLL COLLECT GmbH	1	13.999
Morocco		ADM Société Nationale des Autoroutes du Maroc	1	1.416
Slovak Republic		NDS Národná diaľničná spoločnosť	1	631,1

Czech Republic		KTS KAPSCH Telematic Services	1	1.381,4
Russian Federation		State Company "Russian Highways" (AVTODOR)	2	75,1
TOTAL ASECAP NETWORK			173	46.475,91

**Source: 2013 ASECAP Statistical Bulletin*

ASECAP is the European Association of Operators of Toll Road Infrastructures. With a truly pan-European dimension, the Association brings together members that represent 173 companies and a network of about 46.000 km of motorways, bridges and tunnels, across 21 countries. This network forms a large part of the Trans-European Road Network.

ASECAP's mission is defend and develop the system of motorways and road infrastructures in Europe, applying tolls as a means to ensure the financing of their construction, maintenance and operation.

Moreover, ASECAP exchanges among its members information regarding the construction, maintenance and operation of toll road infrastructure, and promotes and organises study meetings for its members on technical, administrative and financial issues aimed at the deployment of efficient traffic management, providing to the end users a high quality road service at an appropriate cost. For that purpose, it also collects technical and statistical data and participates in select projects.

ASECAP maintains relations with relevant international organisations, the EU institutions and the industry's main stakeholders, protecting the interests of ASECAP members regarding the deployment of a holistic cooperative transport approach.

MANDATE TO CEPT TO STUDY THE OPERATION OF WAS/RLAN

1. BACKGROUND

The European Commission (DG CONNECT/B4) intends to issue a mandate to CEPT (*Conférence Européenne des Administrations des Postes et des Télécommunications*) to study the operation of WAS/RLAN on the basis of a general authorisation in an uninterrupted band from 5150 MHz to 5925 MHz.

2. DSRC TOLLING IN THE 5.8 GHz BAND

In Europe, electronic tolling systems have existed for many years, but since the early 1990's, already 20 years ago, the main European Road Concessionaires started to follow the standards defined. Today, practically all tolled motorway concessionaires have implemented 5.8 GHz Dedicated Short-Range Communications (DSRC) systems that are found spread all over Europe.

Moreover, the European Commission adopted Decision 2009/750/EC of 6 October 2009 defining the EETS, the European Electronic Toll Service, implementing Directive 2004/52/EC, according to which three solutions shall co-exist in Europe for electronic toll transactions, namely:

- the first one based on the TC 278 CEN 5.8 GHz DSRC;
- the second one based on the Italian standard 5.8 GHz DSRC;
- the third one based on GNSS, GSM and DSRC for LAC (Localisation Augmentation) and CCC (Compliance Checking).

Thus, DSRC is a technology to be used for toll collection whatever the solution is.

3. PURPOSE OF THE PROPOSED MANDATE FROM DG CONNECT (extract of the mandate)

The purpose of the above-mentioned Mandate is to (1) study the possibility and identify beneficial sharing opportunities for WAS/RLAN¹ to operate on the basis of a general authorisation in an uninterrupted band from 5150 MHz to 5925 MHz under the condition that appropriate protection of EU priority applications, in particular the planned introduction of GMES² in the band 5350-5450 MHz and the use of safety-related ITS applications in the frequency band 5875-5905 MHz, is ensured; and (2) to develop appropriate sharing arrangements to ensure a long-term spectrum access resource for WAS/RLAN as essential wireless broadband infrastructure in the internal market.

Task 1 – Identification of sharing scenarios

To study and identify for the 5350-5470 MHz and the 5725-5925 MHz bands sharing scenarios based on the latest generation of RLAN equipment (EN 301 893 v. 1.6.1. or 1.7.1.) and to define relevant protection parameters in close cooperation with all concerned stakeholders for:

- 1.1. Ensuring the planned operation of GMES (such as availability of proper satellite data based on SAR imaging systems³) in the band 5360-5450 MHz.*
- 1.2. Ensuring safety-related operation of ground-based ITS systems in the band 5875-5905 MHz in line with the provisions of Decision 2008/671/EC.*

¹ Wireless Access Systems / Radio Local Area Networks

² Global Monitoring for Environment and Security (Copernicus)

³ Synthetic Aperture Radar (SAR) for imaging systems

1.3. *Facilitating co-existence between RLAN systems and other existing primary usage of the bands.*

For each sharing scenario the risk of interference, the deployment assumptions of all applications and the operational footprint of the actual use of the protected services should be identified. This information shall be made available in the spectrum inventory.

In addition, the impact, if any, of future RLAN usage on SRDs⁴ operating in the bands 4500-7000 MHz, 5725-5875 MHz and 5795-5805 MHz according to the parameters harmonised in Decision 2006/771/EC should be assessed. It should also be assessed whether and how the future RLAN usage can be protected against interference from other uses of the 5 GHz band that are currently considered on a shared basis, such as in the 5725-5925 MHz band for Direct-Air-to-Ground Communications.

Task 2 – Development of sharing arrangements

Taking into account the expected technology development of RLAN technology until 2020, in particular the use of larger channel bandwidths, as well as the outcome of Task 1, appropriate mitigation techniques and/or sharing conditions should be developed in close cooperation with all concerned stakeholders.

The sharing arrangement should in particular identify the technical parameters that are needed to ensure in the internal market consistent harmonised sharing requirements for RLAN operating across the entire 5 GHz band. Those requirements should be implementable on the basis of harmonised standards and foster economies of scale in order to meet EU spectrum policy objectives, in particular taking into account sharing technologies and mitigation approaches

⁴ Short Range Devices (“Radio transmitters which have low capability of causing interference to other Radio equipment”)

implemented for existing RLAN equipment. The sharing arrangement should also define the RLAN protection criteria that need to be taken into account for any other potential uses of the 5 GHz band in order to avoid interference for RLAN usage of the 5 GHz band.

4. ASECAP POSITION

Even, if the mandate to CEPT clearly takes into account the existing and future EFC⁵ systems, as well the ITS systems, **ASECAP reminds** that:

- All European toll operators already use the 5.8 GHz CEN DSRC technology according to the existing standards (some for more than two decades) or are intending to do so in the short term.
- ASECAP and its Members have always supported the implementation of standardized tolled systems, assuring the fulfillment of all technical and legal conditions required by national laws and internationally recognized standards.
- Tolling is a crucial activity of Motorway Concessionaires; it is the main way to collect their revenues and thereby guarantee well-managed and well-maintained road networks across Europe, contributing also to economic growth and jobs in Europe.
- The EETS has been the subject of Decision 2009/750/EC of 6 October 2009 implementing Directive 2004/52/EC, and has been recognized as a priority by the European Parliament. These regulatory acts define the EETS according to three technologies, namely the 5.8 GHz standards (CEN, ETSI and UNI), the GNSS and the GSM. This allows the implementation of EFC systems based on DSRC only, and of systems based on localisation on board (GNSS and DSRC).

⁵ Electronic Fee Collection

- Multi technologies OBUs, from various models, delivered by several European manufacturers, have been very recently designed and produced; this allows answering to the requirements of the above-mentioned Directive and Decision regarding the EETS for vehicles exceeding 3,5 tonnes and for all vehicles which are allowed to carry more than nine passengers from the end of 2012, and for all other types of vehicles from the end of 2014.
- ASECAP acknowledges that the 5.9 GHz protection is important for ITS cooperative systems. ETC as well as ITS G5 are of public interest from the perspectives of economy and safety.

5. RECOMMENDATIONS

ASECAP underlines the need to:

- **Assess the impact**, if any, of future RLAN usage in the band 5795-5815 MHz (not only 5795-5805 MHz band) according to the CEN DSRC standard encompassing 4 channels, and in the same band according to the Italian standard encompassing 2 channels.
- **Take into account** the work done, and to be done by the relevant standardization bodies CEN and ETSI, regarding the communications used for the ETC and the ITS applications.
- And, in case of impact, **define the appropriate protection** in order to allow the operational coexistence of toll collection applications using DSRC as defined in Europe.

ASECAP as the sole European association of tolled motorway operators is willing to contribute as a stakeholder association to the identification of the next steps and actions, in order to achieve a consensual solution that:

- **Does not endanger the heavy investments made over the last 20 years for DSRC, among them very recent huge toll collection systems (and associated Value Added Services) or the investments already scheduled for new systems in Europe.**
- **Keeps the expected benefits of ITS G5 applications a viable scenario.**
- **Allows a consistent development of all communication means, in the 5725-5925 MHz band to be used in all domains of applications.**

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