

ASECAP POSITION PAPER ON

CO-EXISTENCE BETWEEN ITS AND DSRC



ASECAP FULL MEMBERS			Companies	Km
Austria		ASFINAG Autobahnen- und Schnellstraßen- Finanzierungs-Aktiengesellschaft	3	2.175
Croatia		HUKA Hrvatska Udruga Koncesionara za Autoceste s naplatom cestarine	4	1.240,7
Denmark		SUND & BAELT Holding A/S	2	34
Spain		ASETA Asociación de Sociedades Españolas Concesionarias de Autopistas, Túneles, Puentes y Vías de Peaje	35	3.362,20
France		ASFA Association professionnelle des Sociétés Françaises concessionnaires ou exploitantes d'Autoroutes et d'ouvrages routiers	18	8.627,9
Greece		TEO Fonds Routier National Hellenique	7	916,5
Hungary		AKA Alföld Koncessziós Autópálya Zrt	3	912
Ireland		NTR National Toll Roads Ltd.	9	219
Italy		AISCAT Associazione Italiana Società Concessionarie Autostrade e Trafori	24	5.724,4
Norway		NORVEGFINANS Norske Vegfinansieringsselskapers Forening	32	796,5

Netherlands		N.V.Westerscheldetunnel	1	20
Poland		AWSA Autostrada Wielkopolska	3	300
Portugal		APCAP Associação Portuguesa das Sociedades Concessionárias de Auto-Estradas ou Pontes com Portagens	7	1.695,4
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	592,5
ASSOCIATE MEMBERS			Companies	Km
Germany		TOLL COLLECT GmbH	1	12.775
Morocco		ADM Société Nationale des Autoroutes du Maroc	1	915
Slovak Republic		NDS Národná diaľničná spoločnosť	1	383,1
Czech Republic		KTS KAPSCH Telematic Services	1	1.236,5
TOTAL TOLL NETWORK			154	29.795,7

ASECAP is the European Association of tolled motorways, bridges and tunnels concessionaires. It gathers 20 members representing 155 organizations that manage a toll network of over 40.000 km, mainly along TENs.

The vision of ASECAP and its members is a friendly sustainable and efficient transport system and for this objective they promote tolling as the most effective tool to finance the construction, operation and maintenance of motorways and other major road infrastructures for the benefit of the European citizen.

ASECAP and its members are committed to:

- Strengthening the efficiency of their networks and permanently improving the level of service provided to the European citizens, by keeping up with the latest technology developments and the best operational practices;
- Exchanging information and experience, participating in research programmes and further developing and enhancing the direct “user-payer” toll system as an instrument of a sustainable, safe and environmentally friendly transport policy.

ASECAP draws from this representation a unique expertise recognized in the field of infrastructures financing, construction, management and maintenance.

FOREWORD

In Europe, electronic tolling systems have existed for many years, but since the early 90's, already 20 years ago, the main European Concessionaires started to follow the standards under definition.

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 recently adopted Decision 2009/750/EC of 6 October 2009 defining EETS, the European Electronic Toll System, implementing Directive 2004/52/EC, according to which three solutions should co-exist in Europe for electronic toll transactions, namely the 5.8 GHz solutions (the one standardized by CEN, as well as the Italian solution) and the GNSS and GSM solution, which can also use DSRC for LAC (Localisation Augmentation) and CCC (Compliance Checking).

So, at present, in Europe, these are the technologies used and recognized both at national and European levels, politically as well as in standardization matters. Moreover, Directive 2010/40/EU of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems (ITS) indicates that the existing ITS infrastructure deployed by Member States should be taken into account in terms of technological progress and financial efforts made.

In the last years cooperative systems have come up to the market as an interesting solution to the safety problems of the road sector and a special bandwidth has been reserved for their applications on the 5.9 GHz band.

INTRODUCTION

As analyzed by ETSI, the European Telecommunication Standard Institute, in ETSI TR 102 654, interference between DSRC and ITS equipment can jeopardize the DSRC communication necessary for correct tolling.

Recently, a document on mitigation techniques has been generated by ETSI, namely draft TS 102 792, aiming to overcome problems of interference between ITS equipment and 5.8 GHz DSRC tolling systems.

These mitigation techniques foresee different alternatives affecting only DSRC stations, only ITS stations or both.

TECHNICAL BACKGROUND

Both, the transmitters of Cooperative Intelligent Transport Systems (ITS) used for vehicle-to-vehicle (V2V) as well as vehicle-to-infrastructure (V2I) communication, and DSRC respectively EETS On Board Units (OBU) are mounted in vehicles. Restricted by the size of the vehicle they are forced to be in close distance to each other. Furthermore, Cooperative ITS are allowed to use high radio frequency (RF) output power levels, at radio channels adjacent to the frequencies used by DSRC systems. ETSI ERM TG37 has developed TR 102 654 (ETSI technical report) to analyze this scenario. This technical report concludes that measures to ensure co-existence between DSRC systems and cooperative ITS have to be undertaken.

ASECAP POSITION

ASECAP reminds that several European toll operators already use 5.8 GHz CEN DSRC technique following existing standards for more than two decades.

According to standardization principles, new standards should take into account previous standards.

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 international recognized standards.

Tolling is a crucial activity of Motorway Concessionaires; it is the main way to collect their revenues.

ASECAP expects that basic standardization rules will not be forgotten and will continue to be followed as usual.

Specifically future ITS applications on the 5.9 Ghz band should not interfere with European Electronic Toll applications based on the CEN DSCRC 5.8 Ghz band. ETSI specification should guarantee the co-existence of both applications. The work started with the draft ETSI TS 102 792 should go on until positive demonstration of such compatibility, without costs for the existing applications.

ASECAP also wants to express its interest in ITS and specifically in cooperative systems as an important component to improve safety on motorways and more generally on roads.

ASECAP remains at the disposal of all interested stakeholders to contribute with its efforts to achieve consensual solutions that do not endanger the heavy investments incurred over the last 20 years.

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