




report

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Verification of EETS Guidelines with the EG Reports and other CE documents

Table of contents

1	Introduction and methodology	3
2	Documents for CESARE IV examination	4
2.1	List of documents for CESARE IV examination	4
2.2	Synopsis of documents for CESARE IV examination	5
2.2.1	Reports of Expert Groups	5
2.2.2	Public Documents from RCI project	9
2.2.3	ENCC Final Report (TÜV Report)	9
2.2.4	CEN/TC 278	10
2.2.5	ARENA project	10
2.2.6	MISTER project	11
2.2.7	DG-TREN study	11
2.2.8	VERA2	11
3	Documents to be considered for examination	13
4	Consistency of EETS conditions in the documents examined	15
5	Conclusions	17
6	References	18
	Document revision history	18
A	Annex – Complete table of input documents checking	19

1. Introduction and Methodology

CESARE is a Programme set up by ASECAP, the ASECAP associated organizations and the road administrations of several European countries known as “the Stockholm Group” (SG) with the objective of specifying, designing, developing, promoting and implementing a common interoperable Electronic Fee Collection System (EFC) on European toll roads. The project is divided into several project phases, whereby the previous phase called CESARE III has been completed in October 2006. The results of CESARE III showed that there is a need for further actions in a next project phase (CESARE IV) in order to realize the interoperability objectives. The main goal of CESARE IV is to define a framework for establishing an interoperable EETS, functioning in a coordinated way at the European level, while allowing the Member States to fasten the pace of their national implementation plans for EETS. In this way CESARE IV will contribute to the implementation of the Directive 2004/52/EC.

This document is part of the reporting of the CESARE IV Work Package 01 EETS Basic guidelines (Task 1300: “Compatibility Analysis of EETS Guidelines”). The purpose of the document is to propose changes to the EETS conditions studied in Task 1200 in the light of the recommendations and assumptions of different relevant documents created by the Groups of Experts appointed by the European Commission for the definition of the EETS and the outcomes from several EC-supported projects, that are being developed in parallel to CESARE IV.

The relevant documents have been scanned by the T1300 work subgroup, a subset of the WP01 work team. From the scanned documents a table of suggested changes to EETS Conditions will be produced for each EETS Role and Function (e.g. Role=IM Interoperability Management - Function=Governance).

2 Documents for CESARE IV examination

2.1 List of documents for CESARE IV examination

Reports of Expert Groups:

- EG 1+ 5: Synthesis of the Reports of the Expert Groups 1 and 5 on microwave and satellite technologies for electronic tolling
- EG 2: Definition of parameters to be stored in onboard equipment designed for use with the European Electronic Toll Service
- EG 3: Recommendations on enforcement (including cross-border enforcement) for the European Electronic Toll Service
- EG 4: Certification of the equipment related to the Directive
- EG 6: Integration of on-board units into vehicles
- EG 7: The Role of Financial Institutions Payment and contractual aspects of EETS
- EG 8: Final Review of draft UNI DSRC Specifications
- EG 9: Specification of the EFC application based on satellite technologies
- EG 10: Recommendations on enforcement specifications and technologies for the European Electronic Toll Service
- EG 11: Definition of the EFC Application for the EETS Based on Microwave Technologies
- EG 12: Security aspects of the EETS

Public Documents from RCI project:

- Consortium High-Level View on RCI Architecture and Specifications (v1.2)

ENCC Final Report (TÜV Report):

- Study on the Implementation of a European Network of Certification Centres (ENCC) for the purpose of the Single European Service of Electronic Fee Collection

ARENA Project:

- A market based approach to achieve EFC interoperability in Europe

MISTER Project:

- MISTER Draft Presentation to EC Tolling Regulatory Committee v2.8

VERA-2:

- Synthesis document

DG-TREN:

- Study on economic and social impact of the implementation of Directive 2004/52/CE on interoperability of electronic fee collection in Europe

CEN/TC 278:

- Road Transport and Traffic Telematics — Electronic Fee Collection — System Architecture for Vehicle-related Tolling (prEN ISO 17573:2008)

2.2 Synopsis of documents for CESARE IV examination

In order to have a general view of the contents of the documents, this chapter shows a summary of each based on their scopes or executive summaries¹.

2.2.1 Reports of Expert Groups

EG 1+ 5: Synthesis of the Reports of the Expert Groups 1 and 5 on microwave and satellite technologies for electronic tolling

Expert Group 1 (EG1) on microwave technologies was established by the European Commission to provide analyses on the inclusion of microwave DSRC technologies at 5.8 GHz to be used for the EETS, in support of the European Directive 2004/52/EC.

EG1 investigated four concepts and their suitability to form the basis for the European Electronic Toll Service (EETS) at 5.8 GHz.

1. **One Common DSRC interface and one common EFC application** supported by all eligible on-board units (OBU) and roadside equipment (RSE);
2. **Multi-protocol OBU (CEN, Telepass, ...)**: two DSRC interfaces (CEN and UNI/Telepass) and more than one EFC application supported by the OBU;
3. **Multi-protocol RSE (CEN, Telepass, ...)**: the Roadside equipment (RSE) supports the two DSRC technologies and more than one EFC application;
4. **Dynamically configurable OBU**: the “EFC application” is downloaded, e.g. via GPRS, whenever “entering” a new EFC domain.

The concepts 1, 2 and 4 support the interoperability by the Onboard Unit (OBU) when the Roadside Equipment (RSE) remains mostly unchanged. The concept 3 is the reverse: the RSE supports interoperability between different national OBUs.

In addition, EG1 was asked to highlight areas where further work is needed in order to define the EETS at 5.8 GHz.

As part of its analyses, EG1 takes into account:

- the European EFC state-of-affairs, providing the overall context;
- appraisal whether the Italian specifications [UNI DSRC, UNI AID] support an open vendor market of Telepass compliant OBU and RSE from a technical point of view;
- guiding principles used as the basis for the elaboration of the investigated concepts such as “the DSRC 5.8 GHz transaction for EFC charging associated with the EETS is based on central account charging”;
- the assumptions, properties and open issues of the four investigated concepts;
- analyses of the technical, operational and costs associated with the examined concepts;

The following issues were not part of the assignment:

- Charging transaction requirements including security services, infrastructure and the management at the toll service charging points;
- DSRC communication requirements specification;
- Urban road user charging requirements (single pole, side mounted, insulation of traffic direction, etc);
- Integration of the OBU into the vehicle;
- “Interface” to other in-vehicles EFC technologies such as infrared, GNSS/CN and GPRS.

1 Note: *Though slightly different, these summaries contain parts that are copies of paragraphs of the documents to which they relate.*

Having in view a general architecture of satellite tolling the Expert Group 5 (EG5) focused its analysis on the following list of issues:

- User requirements
- Positioning sensor aiding devices
- Digital maps
- Standards and interoperability
- GNSS related issues
- Pan-European maintenance concept
- Enforcement interoperability
- Safety services
- Security
- GPRS roaming

EG 2: Definition of parameters to be stored in onboard equipment designed for use with the European Electronic Toll Service

Expert Group 2 (EG2) on Vehicle Classification was established by the European Commission to provide recommendations on the vehicle parameters to be stored in OBUs.

The Group has sought to define the minimum set of vehicle characteristics which are required to be stored in the OBUs, for use with those charging schemes which need them.

The work of the Group:

- has no impact on the choice of tariff schemes by operators and Member States
- is independent of the technology used for the OBU
- is restricted to vehicle characteristics. The work does not cover any parameters required for variations in tariff which are not related to the vehicle, such as:
 - The use being made of the vehicle (e.g. emergency vehicles)
 - The load being carried by the vehicle (e.g. local industry)
 - Characteristics of the driver (e.g. disabled person)
 - Characteristics of the journey (e.g. origin/destination)
- recognises the right of each operator to verify the accuracy or feasibility of declared parameters by an appropriate method.

EG 3: Recommendations on enforcement (including cross-border enforcement) for the European Electronic Toll Service

Expert Group 3 (EG3) was established in order to take an initial view of the challenges and threats that face toll road operators at the current time and to make recommendations regarding enforcement of a European EFC service.

The Expert Group has been charged with:

- proposing a definition for a European “EFC violation”;
- examining the consequences of road traffic laws (Codes de la route) on the signing of networks and in particular, toll gates where the European EFC Service is accepted;
- recommending minimum penalties for ETC violations and examining other types of enforcement measures that may be applicable (such as driving bans, impounding of vehicles, etc);
- examining the respective roles of operators, issuers and police departments in the enforcement of penalties arising from ETC violations and proposing guidelines to assist in the prosecution of violators;
- proposing measures to ensure that an acceptable level of penalties arising from EFC violations can be enforced thereby guaranteeing each operator its revenues;
- liaising with the European Commission officers in charge of drafting and supporting the proposed Directive on cross-border enforcement;

- liaising with the early adopters of the eNFORCE network proposed by VERA2 with a view to ensuring that during its development and implementation, ETC operators' perspectives can be taken into account.

EG 6: Integration of onboard units into vehicles

Expert Group 6 (EG6) on the Integration of OBUs in vehicles was established by the European Commission to provide recommendations on the way in which OBUs are fitted into vehicles.

The group has sought to analyse the needs of stakeholders and the OBU integration situation both today and in the future within certain guiding principles. The work of the group is to make recommendations which deal with:

- the physical incorporation of the OBU into the vehicle;
- the integration of the OBU with other functionalities both existing and future;
- fitment-related OBU ownership issues including, configuration, maintenance and software updating and;
- other issues such as user constraints and human machine interface.

Regarding vehicles, the working group members have identified their scope as trucks, buses and coaches, light commercial vehicles and passenger cars. Motorcycles have not been included within the scope of consideration for a number of reasons including: security of equipment, physical limitations on space available and power usage. While systems do exist in some countries for motorcycles, group members consider none of these fully acceptable. However, if a DSRC only interoperable system can be envisaged, then under certain circumstances like free flow, a portable motorcycle EFC unit could be considered. If charging systems were to be extended to roads other than motorways then other vehicles could also be included like agricultural vehicles.

EG 7: The Role of Financial Institutions Payment and contractual aspects of EETS

Expert Group 7 (EG7) "The Role of Financial Institutions" was established by the European Commission to provide recommendations for the definition of the contractual and legal issues related to the EETS taking into account the experience of banks, payment card issuers, contract issuers in this area.

Especially questions such as

- clearing between entities
- payment guarantees
- risk management
- liability
- legal rules that apply to means of payment and/or invoicing
- the roles of financial and non-financial institutions particularly in the context of bank law have to be handled.

Whereas the Directive is equally applicable to HGV and light vehicles, the Expert Group has focused mainly on the interoperability for HGV. EG07 recognised that there could be specific requirements for light vehicles such as:

- consumer protection laws
- privacy
- security
- business model

These issues were not analysed.

EG 8: Final Review of draft UNI DSRC Specifications

Expert Group 8 (EG8) was established to make a final review of the revised Draft UNI DSRC standards, in connection with the Regulatory Committee on Electronic Fee Collection (EFC) created by the Directive 2004/52/EC.

The overall aim of the review is to appreciate whether the Draft UNI DSRC standards support an open vendor market for UNI DSRC compliant OBUs from a technical point of view, i.e. whether they provide the same type and depth of information as the European 5.8 GHz-related standards do.

Following the work of EG1, Italy delivered a revised set of Draft UNI DSRC standards, aimed at resolving the issues raised as a result of EG1's work.

Specifically, the task of EG8 is to assess to what extent the issues identified in EG1's final report on "Recommendations on microwave DSRC technologies at 5.8 GHz to be used for the European electronic toll service" [EG1 Final Report] related to the Draft UNI DSRC standards have been resolved in the revised Draft UNI DSRC standards.

The aim of this study is also to provide guidelines on additional information and further technical work essential to manufacturers that wish to include a "UNI DSRC compliant interface" in their OBUs, and hence contribute to the opening up of public procurement of "Telepass system compatible OBU" to competition.

EG 9: Specification of the EFC application based on satellite technologies

Expert Group 9 (EG9) was set up in response to the recommendations from EG5 to prepare outline functional specifications for Electronic Fee Collection (EFC) based on satellite technologies.

In addition to the primary objective of preparing outline functional specifications for the EETS, the following specific EG5 recommendations are also mentioned in the remit of EG9:

- the Commission should arrange for more detailed investigation of charge system definition limits;
- the Commission should arrange for more detailed investigation of minimum HMI requirements for the EETS OBE;
- the Commission should arrange for the validation and/or refinement of the position accuracy requirements contained in the first draft of the MISTER;
- the Commission should arrange for investigation for the conditions for the deployment of a minimum set of safety services the EETS OBE should support in order to facilitate the deployment of ITS services using the opportunity of the EETS deployment in vehicles;
- the Commission should strongly recommend the inclusion in the EETS OBE of at least those safety functions which do not significantly increase OBE cost. Further studies should be launched on this issue. MISTER should already start to include the required elements.

EG 10: Recommendations on enforcement specifications and technologies for the European Electronic Toll Service

Expert Group 10 (EG10) was made responsible for the definition of the functional and technological specifications for the enforcement system of the future EETS, focusing on cross-border aspects, and on internal issues driven by cross-border needs.

The EG10 report is a detailed document supported by three reports produced in 3 different task forces covering the following aspects:

- current EFC and Enforcement systems implemented across Europe and foreseen developments;
- identification and analysis of the possible situations of violation that can take place in an interoperable environment and the proposed procedures for its resolution;
- analysis of the available enforcement technologies and their application to the fulfillment of the enforcement requirements.

EG 11: Definition of the EFC Application for the EETS Based on Microwave Technologies

The report of Expert Group 11 (EG11) specifies the DSRC interface of EETS compatible onboard equipment regarding charging and enforcement:

- the specification is intended for DSRC-based charging systems. Other uses of the DSRC interface, e.g. for enforcement in GNSS/CN systems or for value added services, are not covered;
- for DSRC-based systems the specification covers the DSRC data transfer for both charging and enforcement purposes;
- the specification is for the EETS. The EETS is considered to be an additional service that is not intended to replace national services or specifications.

EG 12: Security aspects of the EETS

Focusing on the overall strategic security issues, the scope of the Expert Group 12 (EG12) report is to:

- make a risk analysis for the EETS on a system level: identify and classify threats and indicate which risks should be dealt with on a European level and which can be left to individual EETS entities or bilateral arrangements;
- define a system-wide security concept including responsibilities of actors, security monitoring concept, system security management, protection level of interfaces;
- propose individual countermeasures/requirements for the most relevant risks that should be dealt with on a European level;
- take into account experience from other sectors, e.g. public transport fare collection.

2.2.2 Public Documents from RCI project

Consortium High-Level View on RCI Architecture and Specifications

This paper has been drafted by the RCI consortium, approved by the RCI Steering Committee and endorsed by the EC, with the purpose to:

- create a common understanding inside the RCI consortium on the “what”, “why” and “how” of the concept of interoperability including the Toll Context Definition;
- increase European awareness and acceptance for European interoperability and how it can be realised.

The Toll Context Definition is a crucial concept for interoperability of road charging solutions across different tolled infrastructures in Europe. It will be this definition that will define the balance between harmonisation in Europe of different systems and the flexibility and freedom that toll chargers and Member States have in defining their personalised requirements for a new system that is meant to be compliant to the future European Electronic Tolling Service.

2.2.3 ENCC Final Report (TÜV Report)

Study on the Implementation of a European Network of Certification Centres (ENCC) for the purpose of the Single European Service of Electronic Fee Collection

The subject of this study was the Implementation of a European Network of Certification Centres (ENCC) for the purpose of the Single European Service of Electronic Fee Collection (EETS). This study is structured along four work packages, WP1, WP3, WP4 and WP2.

In WP1 the Technical Feasibility of an ENCC as outlined in the Report of Expert Group 4 (EG4) was analysed.

The outcome of the feasibility analysis provided the input for WP3, Organisation of ENCC and Network Procedures.

WP4 investigated the technical procedures for the Testing of EFC equipment.

With the knowledge gained in the work packages WP1, 3, and 4, an ENCC business case was developed as requested in the scope of WP2.

2.2.4 CEN/TC 278

Road transport and traffic telematics — Electronic fee collection — System architecture for vehicle related tolling (prEN ISO 17573:2008)

This document standardises the architecture of a toll system environment in which a customer with one contract may use a vehicle in a variety of toll domains and with a different Toll Charger for each domain.

From a technical point of view the considered toll systems use electronic equipments on board of a vehicle.

From a process point of view the architectural description focuses on fee determination, fee charging, and the associated enforcement measures. The actual collection of the fee, i.e. collecting payments, is not included.

This document provides:

- the enterprise view on the architecture, which is concerned with the purpose, scope and policies governing the activities of the specified system within the organization of which it is a part;
- terms and definitions for common use in a toll environment;
- a decomposition of the toll systems environment into its main objects;
- the responsibilities of the main actors;
- an identification of the main interfaces between the main objects;
- an identification of the main flows of information between the main objects;
- action diagrams reflecting the co-operation between the main actors.

2.2.5 ARENA Project

A market based approach to achieve EFC interoperability in Europe

The purpose of this report is to challenge the ongoing harmonisation efforts within the Union with an alternative market based approach. The report aims at answering the question; *How should the EFC market be structured in order to maximise market dynamics and create strong incentives for the actors to solve the issue of interoperability themselves?*

In answering this question, two different models are outlined, one regarding those toll domains where DSRC systems are employed, and one for those using autonomous systems.

In the first model, aimed at domains with DSRC systems, a strict separation between toll chargers and toll service providers is proposed. This is similar to the split between providers of infrastructure and services, which has become commonplace in markets such as electricity and railroads.

In the second model, a suggestion is laid out for how autonomous systems can be organised differently compared to traditional DSRC based system, based on the observation that the different technologies create diffe-

rent market conditions. The suggestion consists of six principles, offering the end user a real choice between service providers, and service providers with a real choice as to the design of their systems.

2.2.3 MISTER Project:

MISTER Draft Presentation to EC Tolling Regulatory Committee v2.8

This document (MISTER Draft Presentation to EC Tolling Regulatory Committee v2.8) was prepared by Expert Group 9 (EG9) within the framework of a contract with the European Commission, DG TREN, as input to the specification of the European Electronic Toll Service (EETS) according to the EC directive 2004/52/EC on “Interoperability of electronic road tolling systems in the Community”. It is based on a former draft that was prepared together with a complete draft of the EN ISO 17575 technical specification on the “Application Interface Definition for Electronic Fee Collection (EFC) based on Global Navigation Satellite Systems and Cellular Networks (GNSS/CN)”. Its goal is to complement the EN ISO 17575 draft in order to specify the EETS.

2.2.4 DG-TREN Study

Study on economic and social impact of the implementation of Directive 2004/52/CE on interoperability of electronic fee collection in Europe

This study is aimed at analysing the economic and social impact of the implementation of Directive 2004/52/CE on the interoperability of electronic tolling service in Europe.

To achieve the objective of the study an analysis was carried out basically aimed at collecting opinions and viewpoints of major stakeholders of the electronic tolling service industry such as country administrations, toll chargers, industry representatives, namely the on board unit producers and software integrators firms and financial institutions. The assessment of stakeholders’ opinions has allowed us to depict economic and social upshots on the implementation of the “single European Electronic Fee Collection Service”.

2.2.5 VERA2

VERA2 Synthesis document

Building on the results of VERA, **VERA2** has addressed the practicalities of cross-border enforcement in Europe. It has examined the legal basis for cross-border enforcement aligning much of its work with the Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties, know as COPEN 241. This has resulted in draft text for **a possible future Directive on Cross-Border Enforcement** which, if enacted, would provide a basis for resolving many of the legal, organisational and technical issues.

In support of this draft Directive, VERA2 has developed the concept of a **cross border data exchange network for enforcement** originally proposed in the first VERA project.

eNFORCE, as the concept has been renamed, comprises:

- a “network” of authorities and organisations in participating Member Countries which are competent to carry out the responsibilities associated with cross-border enforcement;
- a data exchange service allowing members of this network to exchange data relevant to the enforcement process.

VERA2 has developed organisational models for the *eNFORCE* Network and has developed an enforcement data dictionary and a demonstration data exchange service to highlight what the concept could provide. VERA2 has also defined an implementation path for *eNFORCE* and the draft Directive.

VERA2 has also examined **cross-border aspects of enforcement equipment type approval**. It examined the potential to harmonise technical aspects of type approval on the basis of the VERA Principle of Cross-Border Enforcement (where possible) on the basis of the Measuring Instruments Directive (MID) as a common European legal framework and existing European and international standards. The project has prepared its recommendations in the form of a draft Annex to the Measuring Instruments Directive known as Annex MI-DiMES (Digital Image Enforcement Systems).

Finally, VERA2 has identified **further key issues of importance fundamental** to establishing effective, efficient and above all, fair cross-border enforcement across Europe. These are:

- improving the identification of vehicle nationality from the vehicle registration plate;
- improving access to owner/driver information;
- cross-border enforcement of non-financial penalties.

3. Documents to be considered for examination

After an analysis of the contents of documents and the relationship between them, members of the T1300 decided to organize the work of detailed examination only for some of them. The table below summarizes the decisions taken and their rational.

Document	T1300 Analysis	Remarks
Reports of Expert Groups:		
EG 1+ 5: Synthesis of the Reports of the Expert Groups 1 and 5 on microwave and satellite technologies for electronic tolling	Yes – EG1	EG1 Important. The EG5 report focuses on ETC using satellite technology and can be substituted by latest reports (EG9 and RCI). It should not be considered.
EG 2: Definition of parameters to be stored in onboard equipment designed for use with the European Electronic Toll Service	Yes	Important
EG 3: Recommendations on enforcement (including cross-border enforcement) for the European Electronic Toll Service	Yes	Important
EG 4: Certification of the equipment related to the Directive	No	No, provided that the TÜV Report covers or answers the relevant questions.
EG 6: Integration of on-board units into vehicles	Yes	Yes, but minor importance.
EG 7: The Role of Financial Institutions Payment and contractual aspects of EETS	Yes	Important
EG 8: Final Review of draft UNI DSRC Specifications	No	No relevance. The report focuses on the review of technical aspects of the Italian DSRC interface to ensure the opening of knowledge to manufacturers.
EG 9: Specification of the EFC application based on satellite technologies	No	No, this report is superseded by subsequent developments in RCI project (RCI Architecture).
EG 10: Recommendations on enforcement specifications and technologies for the European Electronic Toll Service	Yes	Should be considered together with the EG3.
EG 11: Definition of the EFC Application for the EETS Based on Microwave Technologies	Yes	Should be considered together with the EG1 report.
EG 12: Security aspects of the EETS	Yes	Important
Public Documents from RCI project:		
Consortium High-Level View on RCI Architecture and Specifications	Yes	Important concerning replacement of EG5 and EG9 reports.

Document	T1300 Analysis	Remarks
ENCC Final Report (TÜV Report):		
Study on the Implementation of a European Network of Certification Centres (ENCC) for the purpose of the Single European Service of Electronic Fee Collection	Yes	Important concerning replacement of EG4 report. The ENCC Report took the recommendations as given by EG4 and developed them further towards an organisational concept of EETS certification.
Arena Project:		
ARENA_market-based_approach_v1.1.pdf	No	Not relevant to the model in study (CESARE III model).
MISTER Project:		
MISTER Draft Presentation to EC Tolling Regulatory Committee v2.8	No	No, this document is obsolete compared to recent developments in RCI project (RCI Architecture).
VERA-2:		
Synthesis document	No	No, VERA II focuses on traffic law. There are different requirements for toll and toll enforcement laws.
DG-TREN:		
Study on economic and social impact of the implementation of Directive 2004/52/CE on interoperability of electronic fee collection in Europe	Yes	Yes, but lesser importance - only the conclusions should be considered for review.
CEN/TC 278:		
Road Transport and Traffic Telematics — Electronic fee collection — System architecture for vehicle related tolling (prEN ISO 17573:2008)	Yes	Important, this document focuses on many of the themes that are subject to the CESARE IV study.

4. Consistency of EETS Conditions in the documents examined

Due to its generic nature, most of the conditions of D1.2 are not in contradiction with any of the documents examined. However, some are in divergence with principles or recommendations raised in the documents examined.

Considering their relevance while maintaining the coherence of the model and the work done, in the next stages of CESARE IV it may be necessary to resolve or justify the reasons for such differences

The table below shows only the small number of comments or differences found. The complete table can be found in Annex A.

C-III Comp	Reference	Condition	Role				Remarks
			IM	EP	TC	SU	
Governance Condition	G-N014	EP and TC shall accept the Service Definitions, rules and regulations required for the EETS		D	D		ISO: More specific but same sense - "The EETS provider has the duty to accept and implement the Service Definitions, rules and regulations required for the EETS namely implementing and adhering to the security and privacy policies for EETS-related systems."
Service Use Condition DSRC	DS-N008	EP shall accept toll declarations which are collected and verified by TC in extended mode due to (a) malfunction of RSE or OBE ,and/or (b) national legislation and regulations. Note: It shall be transparent for all parties when toll transactions are collected and verified in extended mode.		D	R		EG11: EG11 defines security authentication in transactions EG12: This statement is incompatible with security requirements of EG12
Service Use Condition DSRC	DS-N003	TC shall signalise to SU the correct usage of the toll system in its toll domain, including the correct lane usage at the toll plazas			D		ISO: More specific but same sense - "TC shall inform the SU when entering/leaving toll domain about the EETS availability and the toll changing principles through signs and messages either directly or via the OBE, and eventually as a result of the charging process."

C-III Comp	Reference	Condition	Role				Remarks
			IM	EP	TC	SU	
Service Use Condition DSRC	DS-N002	TC shall conclude tolling transaction based on valid toll declaration data (in real time or in back office)			D		EG11 defines security authentication in transactions EG12: If "conclude tolling transaction" means change or transform the original RSE/OBE data in any way, this condition is in divergence with EG12 security requirements
Service Use Condition DSRC and AS	DSAS-N003	The SU shall declare any variable parameters affecting the classification of the vehicle (and trailer) before entering an EETS toll domain				D	ISO: More specific but same sense - "The Service User has to interact with OBE in order to declare any variable parameters affecting the classification of the vehicle (and trailer) before entering a toll system providing EETS."
Service User Support Condition	SUS-N016	The SU shall return the OBE to EP on request and against receipt of replacement unit		R		D	EG 6 states that the equipment could be owned by the user, so it depends who is the owner of the equipment. This statement is incompatible with EG6
Enforcement Support Condition	ES-N013	In case of non-compliant activity due to failure in reading the OBU, TC and/or EP shall convert the transaction from non-compliant to ordinary transaction without cost for the SU providing the instruction for OBU use are fulfilled.		D	D	R	EG11: EG11 defines security authentication in transactions EG12: This statement may result incompatible with security requirements of EG12.

5. Conclusions

As stated in the first chapters of this document, its purpose is to review the EETS conditions developed in previous tasks of the CESARE IV Project and compiled in the Report D1.2 in the light of different documents issued by the Expert Groups set up by the European Commission, CEN/ISO Standardisation Committees and other parties interested in the European Electronic Toll Service.

As a conclusion, we summarize the only two topics which may be in conflict with the set of conditions evaluated:

1. The mechanisms for authentication, under EG11 and EG12, diverge from certain EETS conditions which allow for transaction to be created or modified by TC non-automatic means, so called “extended mode transactions”. The Expert Group on security mechanisms do not permit such mode in their recommendations.
2. The fact that the Service User can be owner of the OBE, under EG6, may be inconsistent with its obligation to return and replace its equipment at the request of the EETS Provider.

Both aspects were certainly addressed during the discussions under Task 1200.

Regarding the issue of the transaction in extended mode, there was a consensus in allowing such alternative system, to allow the Service User a possibility to access EETS when the OBE or the RSE do not work properly by any chance (condition TC-NC23). These type of transactions should be carefully handled by Toll Chargers and must be clearly identified at the back office and data exchange level. The EETS Provider shall accept the payment of these transactions (condition EP-NC38) subject to a final validation of the Service User solvency by the EETS Provider. To eliminate any suspect of inadequate manipulation, Toll Chargers can be periodically requested to demonstrate the compliance of EETS security standards by an Interoperability Management entity (conditions IM-NC10 and TC-NC11).

The second issue deals with the consequences of a repeated malfunctioning of the OBE. When a number of extended mode transactions is received, an EETS Provider can request the Service User to give back his OBE for replacement (conditions SU-NC30 and SU-NC31).

An early replacement of the OBE in case of malfunctioning could prevent enforcement actions caused by the Service User and initiated by the Toll Charger. A procedure must be defined for cases where the OBE is owned by the Service User.

The rest of aspects covered by this document are minor issues and most of them were included in the final wording of the EETS conditions as listed in D1.2. The review of the documents provided useful input for finalising the EETS conditions drafted in Report D1.2.

At the moment of finishing and submitting this Report, according to CESARE IV project schedule, some other projects and current initiatives related to EETS are still pending to issue their final reports (e.g. RCI). The CESARE IV management will decide about a possible incorporation of outputs from these projects, initiatives or inputs from the European Commission and the Electronic Tolling Committee.

6. References

Document Revision History

1.0	11/07/2008	TER	First complete version provided to the CESARE IV Steering Committee
1.1	21/07/2008	MHM	Improved wording in chapter 1
1.2	17/09/2008	TER	Layout improvements. Annexes moved to separate file.

A. Annex – Complete table of input documents checking

All the tables in the annex detail the outcome of the analysis of the consistency of the EETS Conditions¹ with each of the documents considered adding commentary and/or amendments.

1 Note: *CESARE IV WP1 T1200 EETS Conditions*

