

REETS-TEN

Activity 2: Certification

D 2.2 Report on Certification Components (Conformity to Specifications)

Technical Requirements for Registra-
tion of EETS Providers

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1 Introduction

This report is Deliverable 2.2 “Technical requirements for registration of EETS Providers” of the REETS-TEN project. It documents the main work performed for sub-activity 2.2 of work package WP 2 “Certification Process”.

This WP 2 contributes to a better understanding of the processes of certification. It was agreed to frame the procedures under the two main headers of “Registration” and “Technical accreditation”. The rationale behind this choice is to preserve consistency with the legal framework depicted by the EETS Decision (2009/750/EC), rather than extract the concepts of certification (i.e. conformity to specifications and suitability for use) from the context in which it has to be applied.

Hence, this sub-activity 2.2 concerns the technical requirements for the registration of EETS Providers, and supporting the relevant processes.

It focuses on the components and on the procedures for being registered as EETS Provider, as described in Article 3 of the EETS Decision. One of the technical requirements to be fulfilled by EETS Providers concerns the conformity to specifications and is laid down in Article 3(b): “... demonstrate having the technical equipment and the EC declaration or certificate attesting the compliance of the interoperability constituents”.

The registration process is also addressed by the “Guide for the application of the directive on the interoperability of electronic road toll systems” (In the following Application Guide”), released by the European Commission in 2011; the guide deals with the registration process in its chapter 2.2.2.3. “Rights and duties of EETS Providers”. However, the Application Guide does not add further details about the above-mentioned Article 3(b).

This paper deals with the technical part only of the registration process, i.e. the acceptance by a Member State of a candidate EETS Provider, established on its territory¹ that seeks to qualify as a capable company for the delivery of the EETS in all Europe. This procedure is not to be repeated in other States and it is based on compliance checks to the Directive and Decision constraints (financial solidity, availability of OBEs corresponding to the applicable standards etc.).

The candidate EETS Provider is responsible for providing the Member State statements of conformity to specifications for interoperability constituents, in particular on-board equipment and back office systems. These statements (EC declarations or certificates) can be issued by the manufacturer of the interoperability constituents (self-declaration) or by a Notified Body (on request by the manufacturer). The Member State is responsible for defining necessary statements and for verifying the validity of the statements provided by the candidate EETS Provider.

As Toll Chargers are not addressed at any rate within the Registration process, this report does not deal with Toll Chargers related certification issues.

In practical terms this reports seeks to clarify, building a shared understanding, the scope of the Registration process for its technical part, the basic principles that are recommended.

After having defined the perimeter of the activity, the report analyses (Chapter 4) the interoperability constituents and the needed tests to demonstrate their needed compliance.

Chapter 5 deals with the Registration procedure and its possible maintenance, while chapter 6 summarizes the recommendations for integration/management of the current scheme.

Annexes refer to a common Glossary, to the referenced documents and to a proposal for a shared template for the EC Declaration of Conformity for EETS OBE.

¹ WP1 of the REETS project will further investigate the meaning and consequences of this territory rule

2 Scope of the report and basic principles

From the first part of the work of the project, summarized in the deliverable 2.1, some basic concepts have been retained as general guidance for all the phases and for all the activities linked with the certification activities; clarity, effectiveness and fairness must be ensured in all the phases for all the actors.

For the specific scope of the Technical Registration process the three keywords can be specified as follows:

1. Clarity: actors (EETS Providers, technology providers) must be able to find in an unequivocal way all the information they need to avail themselves of suitable technology components (the formers) and to release on the market such technology components (the latter);
2. Effectiveness: the process has not to be lengthier nor more complex than needed for its purposes; in addition the process should not add unintended elements of costs for the parties, included the concerned Member States authorities;
3. Fairness: each Member State has to be able to rely on the Technical Registration issued by any other Member State and EETS providers have to be able to expect a similar treatment, irrespective of the Member State in which they are seeking to be registered; it is also included in the fairness concept that national implementations already in service and compliant with the relevant rules have to be taken into account.

This reports seeks to enable a common level of understanding on a specific section of the Registration process, as defined by the Decision 2009/750/EU, namely the demonstration of “having the technical equipment and the EC declaration or certificate attesting the compliance of the interoperability constituents as laid down in Annex IV(1) to the (2009/750/EU) Decision”. The section is the one defined in the article 3, point (b) of the Decision, and it is not further commented by the “Guide For The Application Of The Directive On The Interoperability Of Electronic Road Toll Systems” (in the following EETS Application Guide).

Since the Registration process and its components are a purely institutional process and the Member States are free in their sovereignty on its application (within the boundaries set by the Directive and by the Decision), any indication or comment beyond the Decision 2009/750/EU cannot be binding; technology providers (i.e. OBE manufacturers) and Notified Bodies should be able, by applying the relevant standards and by using the available documentation, to fulfill the obligations related to this specific section of the process.

Yet, as the Registration is done once by one Member State for the whole territory of the European Union, therefore some Member States expressed the opinion that a common view (if not a common format) in the verification of the compliance to the said point “b” of the article 3 of the Decision would be helpful; furthermore, some level of harmonization would also respect the principles of fairness and equal treatment of the applicant EETS Providers, irrespectively of the Member State in which they may seek to be registered.

It was also considered that the European standardization framework (technology + transactions procedures) is still not 100% complete, or 100% valid, or applied by all the toll domains (e.g. EN ISO 12855) and leaves room for some legitimate specification at national/toll domain level (e.g. in the field

of requested security layers), that have an influence on the manufacturers/EETS Providers approach; the issue whether to include or not an additional level of agreed specifications to those included in the Technical Registration phase was evaluated; the conclusion is that, even though a check on those further specifications can to some extent be considered a further burden for the following Technical Accreditation phase, it is unavoidable to proceed in strict adherence to the Decision, in order not to introduce additional uncertainties, in procedural terms, for the Member States and for the stakeholders.

Based on those considerations, the scope of this report will stay strictly within the limits set by the Decision for the Technical Registration.

3 Scope of registration phase and checking technical requirements

The scope of the Registration phase and of the technical requirements check may be derived from the basic principles recalled in the chapter 3.

Principle 1, Clarity

It has to be highlighted that to issue the technical Registration is an important responsibility for the Member State concerned; whereas the certification procedures may be in general clear and clearly understood for the technicians working, they might be not yet uniformly and unequivocally understood by the authorities in charge of the EETS implementation; some guidance may help in achieving a common level of understanding.

The benefits of the registration procedure apply to all the EETS components because:

- Member States, which are in charge of ensuring the correct implementation of the relevant directive and decision, will not need singularly to perform a technical Registration process for each EETS Provider;
- EETS Providers will have a unique “entry point” for the technical Registration, in the Member State of their establishment;
- Toll Chargers will have, when receiving the applicant EETS providers for the following technical Accreditation phase, a clear view of the characteristics of the EETS providers’ characteristics.

Principle 2, Effectiveness

It has also been examined the concept that the Registration process might serve also as a tool to gather and clear those “cluster-able” local specifications that go beyond the available standards, are technically legitimate, have an influence on the equipment and would require further testing at local level if not dealt with before. On this specific point the vast majority of the members expressed the opinion that, even though this activity might be useful in easing the overall process, it cannot be cleared within the Registration phase, because the Registration phase must stay, in order to respect the guiding principles of chapter 2, strictly institutional and based only on formally approved and published standards and norms. This with the aim not to add components to the Registration process length neither to its cost for the Member States.

Principle 3, Fairness

The main purpose of the technical part of the Registration process is to ensure that the EETS Provider that will show up on the whole European territory to deliver the service, on all the toll domains, do have the needed technical equipment, and that the equipment actually complies with the EETS specifications and needs.

Since it is meant as a certification process, a Declaration of Conformity issued by an authorized entity (the manufacturer or a Notified Body) shall not be subject to further tests by the Member State; the Member States authority have to interpret the received declaration and check if it has been drafted in a formally correct way by the applicant entity.

Hence, **“the technical Registration basically consists of the check of a list of certified declarations of conformity, related to applicable adopted standards; the technical Registration will neither include laboratory nor field tests, since they are beyond the scope of Registration and they are covered by the certification procedures.”**

This description means in practical terms that at most a reference checklist may be drawn up, that both the authorities in charge of the Registration and the technology providers can access and use as a common reference. The checklist may be accepted by all the Member States and it may need to be maintained, the procedure for its maintenance may be subject to examination by the REETS project WP5, on Interoperability management.

Further specifications that could apply to one or more Toll Domains and that the community composed of the EETS Registration authorities, the EETS Providers and the Toll Chargers will have decided as relevant in order to ease the EETS implementation will have to be dealt with in the framework of the following technical accreditation process, if not agreed otherwise in the interoperability management process.

4 Technical requirements and demonstration of compliance

In order to effectively assess the subject of the technical requirements to be fulfilled and how the compliance has to be demonstrated, in the following the interoperability components are listed and examined first, and their relevance in the Registration process is highlighted.

Some considerations and recommendations are also made about points that may be developed and/or that represent a critical area,

4.1 EETS interoperability constituents

The technical part for registration is based on the Annex III (“Essential requirements”) and the Annex IV (“Conformity to specification, suitability for use and CE marking”) of the Decision 2009/750/EC, which is referring to the concept of “Interoperability Constituents”.

Interoperability constituents as defined in Article 2 of the Decision 2009/750/EC, “*mean any elementary component, application, or equipment incorporated into EETS upon which the interoperabil-*

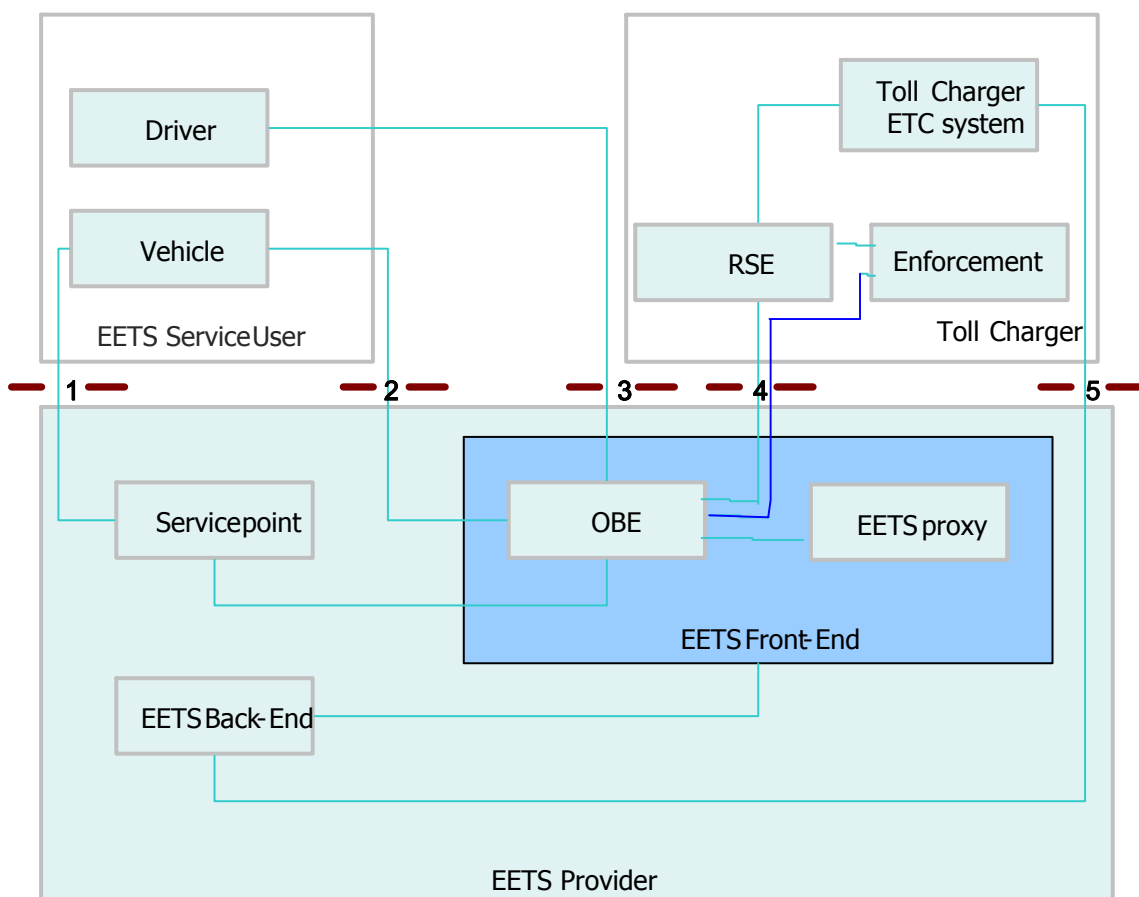
ity of the service depends directly or indirectly, including both tangible objects and intangible objects such as software”.

Further details are given in the same Decision, in the Annex III (“Essential requirements”) and in the Annex IV (“Conformity to specification, suitability for use and CE marking”) of the Decision 2009/750/EC which is referring to the concept of “Interoperability Constituents”.

How those provisions have been transposed in the national legislation of the Member States represented in the REETS project was described in the chapter 2.1 of the report D2.1.

Interoperability Constituents concerning registration of an EP are constituents involved in interfaces between a Toll Charger and an EETS Provider, but restricted to the EETS providers equipment. Therefore the required interoperability constituents concerning registration are:

- EETS Front End (On-board equipment including proxy functionality, regardless if the proxy will be collocated with the EP’s Central System),
- EETS Providers’ Back End with the interfaces for
 - data exchange with the Toll Charger.
 - interaction with the driver
 - vehicle registration data



Depending on the Toll Domain's system and architecture, the above shown equipment and their interfaces must comply with several standards and possibly supplemental requirements, as also more in detail shown in chapter 4.2:

Functional block	Interface in above figure	Interoperability Constituent
OBE	4 4 4 4 3 2	CEN DSRC interface (EN15509) UNI/ETSI DSRC interface (ES200674-1) LAC interface (ISO TS13141) CCC interface (ISO TS12813) User MMI Vehicle interface
EP- system	5 1, 2, 3, 5 General	Back- office interface (EN ISO 12855) Application interface/ autonomous systems (ISO17575) Security policy

4.2 Requirements and tests for demonstrating compliance

This section contains the reference to the toll domain independent (R)EETS technical requirements, derived from the relevant legislations and through referencing to standards or other broadly accepted specifications whenever possible.

It also contains the associated tests specifications that are recommended to be applied when assessing compliance by the candidate EP (with or without support of a third party). Successful verification of the requirements according to the referenced tests give the right to claim presumption of conformity and hence for the candidate EP to issue a declaration of conformity (DoC).

It is not mandatory to assess compliance according to the referenced tests. A candidate EP that chooses another means to prove compliance loses the benefit of the presumption of conformity and has to explain the rationale for his compliance statement to an EETS-Notified Body for his opinion on the subject. A candidate EP that has chosen this approach is only allowed to issue a DoC by including a favourable opinion on the subject by an EETS-NB.

The registrar is responsible for verifying the completeness of the statements by the candidate EP, and upon successful verification to register the candidate EP.

The requirements and the recommended tests when assessing compliance are presented below in form of tables, and by using the following columns:

- technical requirements derived from the relevant legislation, including the reference to the source;
- articulated derived verifiable requirements, through referencing to standards or other broadly accepted specifications whenever possible;
- associated tests to demonstrate compliance, for which a successful verification gives the right to claim presumption of conformity;
- remarks.

Further, the EFC specific requirements and recommended tests are contained in table 1, whereas the ones related to general essential requirements for placing of equipment on the European market are found in tables 2.1, 2.2 and 2.3.

It should be noted that a certain solution proposed by a candidate EP may be subject to additional legislation and essential requirements to the requirements mentioned in the tables 1 and 2.1 to 2.3. E.g. an OBE that is powered by the vehicle electrical system also needs to comply with the Automotive directive (2009/19/EC). It is the responsibility of the candidate EP to highlight such additional applicable legislation and essential requirements associated with this solution as part of the documentation that describes his solution (see section 6 on Registration procedure for further details).

Finally and for the purpose of maintaining a rigorous definition of the EETS, it is recommended that the NB-EETS Coordination Group, consistent with the draft powers given to it by the EC²:

- elaborates, publishes and maintains an up to date list of applicable documents (including references to standards) that contain the requirements and the associated conformity assessment tests;
- elaborates and publishes a list of required documents to sustain the Declaration of Conformity (DoC). Such a list would provide an effective support for the registrar that is responsible for verifying the validity of the statements by the candidate EP;
- elaborates, publishes and maintains a set of common criteria applied by NBs for the NBs' statements, with the aim to achieve equivalence of working practices and ensuring a level playing field.

² Terms of Reference of the Coordination Group of Notified Bodies for the EETS, 2010-10-20

Table 1 - EFC specific requirements and associated conformity tests

Legislation – reference, scope and relevance	Standards	Test standards	Remarks
<p>DIRECTIVE 2004/52/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on the interoperability of electronic road toll systems in the Community</p> <p>Article 2 – technological solution 1. All new electronic toll systems brought into service on or after 1 January 2007 shall, for carrying out electronic toll transactions, use one or more of the following technologies: (a) satellite positioning; (b) mobile communications using the GSM-GPRS standard (reference GSM TS 03.60/23.060); (c) 5,8 GHz microwave technology</p> <p>COMMISSION DECISION of 6 October 2009 on the definition of the European Electronic Toll Service and its technical elements</p> <p>article 2.1.2 EN 15509 ETSI ES 200674-1</p> <p>Annex II: 3a) DSRC (Dedicated Short-Range Communication) charging transactions; 3b) Real-time compliance checking transactions; 3c) Localisation augmentation (where applicable). 4) Exchange of toll declaration</p>	<p>Satellite positioning: Galileo (EGNOS) (GPS, Glonass, Compass) (GPS and Glonass in operation)</p>		<p>No toll domain independent requirement has been formulated with regards to the satellite positioning performance indicators (e.g. accuracy, data integrity, availability and timing) and hence will not be assessed during the registration phase. The satellite positioning performance might be subject to assessment in the accreditation phase.</p>
	<p>GSM/GPRS: 3GPP TS 03.60 Technical Specification 3rd Generation Partnership Project - Technical Specification Group Services and System Aspects: -Digital cellular telecommunications system (Phase 2+) - General Packet Radio Service (GPRS) - Service description - Stage 2 -General Packet Radio Service (GPRS); Service description - Stage 2 http://www.3gpp.org/specifications</p> <p>EN 301 489, Electromagnetic compatibility and Radio spectrum Matters (ERM) - Electromagnetic Compatibility (EMC) standard for radio equipment and services - Part 1: Common technical requirements (ETSI EN 301489-1 V1.9.2 (2011-09)) - Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz - Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)</p>	<p>EN 301 489-1, -3 and -7</p>	
	<p>CEN DSRC 5,8 GHz microwave technology (EETS Dec art 2.1.2 and Annex II, 3a) EN 15509:2007, Road transport and traffic telematics - Electronic fee collection - Interoperability application profile for DSRC</p>	<p>EN 15876, Electronic fee collection - Evaluation of on-board and roadside equipment for conformity to EN 15509 - Part 1: Test suite structure and test purposes (2010+A1:2012) - Part 2: Abstract test suite (2011)</p>	
	<p>Italian DSRC 5,8 GHz microwave technology (EETS Dec art 2.1.2 and Annex II, 3a) ETSI ES 200674-1: 2012-08, Intelligent Transport Systems (ITS);Road Transport and Traffic Telematics (RTTT);Dedicated Short Range Communications (DSRC);Part 1: Technical char-</p>	<p>ETSI ES 200674-1: 2012-08</p>	

Legislation – reference, scope and relevance	Standards	Test standards	Remarks
<p>data between EETS Providers and Toll Chargers:</p> <p>a) Submission and validation of claims for toll payment based on DSRC charging transactions</p> <p>- Submission and validation of GNSS toll declarations;</p> <p>b) Invoicing/settlement;</p> <p>c) Exchange of information to support exception handling</p> <p>— in the DSRC charging process,</p> <p>— in the GNSS charging process;</p> <p>d) Exchange of EETS blacklists;</p> <p>e) Exchange of trust objects;</p> <p>f) Sending of Toll Context Data from Toll Chargers to EETS Providers.</p>	<p>acteristics and test methods for High Data Rate (HDR) data transmission equipment operating in the 5,8 GHz Industrial, Scientific and Medical (ISM) band</p>		
	<p>Real-time compliance checking transactions (EETS Dec Annex II, 3b)</p> <p>CEN ISO/TS 12183:2009, Electronic fee collection - Compliance check communication for autonomous systems</p>	<p>CEN ISO/TS 13143, Electronic fee collection - Evaluation of on-board and roadside equipment for conformity to ISO/TS 12813</p> <p>- Part 1: Test suite structure and test purposes (2011)</p> <p>- Part 2: Abstract test suite (2011)</p>	
	<p>Localisation augmentation (EETS Dec Annex II, 3c)</p> <p>CEN ISO/TS 13141:2010+AC 2013, Electronic fee collection - Localisation augmentation communication for autonomous systems</p>	<p>CEN ISO/TS 13140, Electronic fee collection - Evaluation of on-board and roadside equipment for conformity to ISO/TS 13141</p> <p>- Part 1: Test suite structure and test purposes (2011)</p> <p>- Part 2: Abstract test suite (2012)</p>	
	<p>Information exchange between service provision and toll charging 12855 (EETS Dec Annex II, 4a-d)</p> <p>EN ISO 12855: 2012/AC:2013, Electronic fee collection - Information exchange between service provision and toll charging</p>		<p>No toll domain independent requirement has been formulated with regards to (selection of profiling) options in EN ISO 12855³, and hence will not be assessed during the registration phase.</p> <p>Conformance to toll domain specific requirements related to 12855 might be subject to assessment in the accreditation phase.</p>

³ EN ISO 12855 is currently subject to revision. An interoperable application profile for EN ISO 12855, based on the 2nd edition, is also being prepared. Whereas no test standard is currently planned for 12855, a suite of test standards for conformity assessment purposes is intended to be prepared for the latter once it is available in form of a mature draft.

General essential requirements and associated tests

Table 2.1 Radio and Telecommunications Terminal Equipment (RTTE) Directive⁴

Legislation – reference, scope and relevance	Standards	Test standards	Remarks
<p>DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity</p> <p>This Directive establishes a regulatory framework for the placing on the market, free movement and putting into service in the Community of radio equipment and telecommunications terminal equipment.</p> <p>Article 3 Essential requirements</p> <p>1. The following essential requirements are applicable to all apparatus: (a) the protection of the health and the safety of the user and any other person, including the objectives with respect to safety requirements contained in Directive 73/23/EEC, but with no voltage limit applying; (b) the protection requirements with respect to electromagnetic compatibility contained in Directive 89/336/EEC.</p>	<p>http://ec.europa.eu/enterprise/sectors/rtte/documents/standards/index_en.htm</p> <p>EN 300674-2-2: 2004-08, Electromagnetic compatibility and Radio spectrum Matters (ERM);Road Transport and Traffic Telematics (RTTT);Dedicated Short Range Communication (DSRC) transmission equipment (500 kbit/s / 250 kbit/s) operating in the 5,8 GHz Industrial, Scientific and Medical (ISM) band;Part 2: Harmonized EN under article 3.2 of the R&TTE Directive;</p> <p>EN 301511:2003-03 Global System for Mobile communications (GSM);Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC)</p> <p>EN 300328:2012-06 Electromagnetic compatibility and Radio spectrum Matters (ERM);Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive</p>	<p>EN 300674-2-2: 2004-08</p> <p>EN 301511:2003-03</p> <p>EN 300328:2012-06</p>	<p>The RTT&E Directive requires that a radio-transmitter fulfils the EMC- and LV-Directives (i.e. 2004/108/EC and 2006/95/EC). Compliance with the RTT&E Directive in the context of the EFC vehicle equipment also means compliance with the EMC- and LV-directives.</p> <p>EN 15876-1 covers EN 300 674-2-2 but is not an harmonised standard</p>

⁴ The European Parliament adopted the text of a new Radio Equipment Directive on 2014-03-13, which is intended to replace the RTTE Directive.

Table 2.2 - Restriction of the use of certain hazardous substances (RoHS) Directive

Legislation – reference, scope and relevance	Standards	Test standards	Remarks
<p>DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast)</p> <p>This Directive lays down rules on the restriction of the use of hazardous substances in electrical and electronic equipment (EEE) with a view to contributing to the protection of human health and the environment, including the environmentally sound recovery and disposal of waste EEE.</p>			<p>RoHS 2 (15 June 2012) FAQ (9. CE marking, conformity assessment procedures including required technical documentation and Declarations of Conformity) http://ec.europa.eu/environment/waste/rohs_eee/pdf/faq.pdf</p>

Table 2.3 - Waste electrical and electronic equipment (WEEE) Directive

Legislation – reference, scope and relevance	Standards	Test standards	Remarks
<p>DIRECTIVE 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE)</p> <p>This Directive lays down measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste from electrical and electronic equipment (WEEE) and by reducing overall impacts of resource use and improving the efficiency of such use in accordance with Articles 1 and 4 of Directive 2008/98/EC, thereby contributing to sustainable development.</p> <p>Article 2</p> <p>Scope</p> <p>1. This Directive shall apply to electrical and electronic equipment (EEE) as follows:</p> <p>(a) from 13 August 2012 to 14 August 2018 (transitional period), subject to paragraph 3, to EEE falling within the categories set out in Annex I. Annex II contains an indicative list of EEE which falls within the categories set out in Annex I;</p> <p>(b) from 15 August 2018, subject to paragraphs 3 and 4, to all EEE. All EEE shall be classified within the categories set out in Annex III. Annex IV contains a non-exhaustive list of EEE which falls within the categories set out in Annex III (open scope).</p> <p>Transposition</p> <p>1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 14 February 2014. They shall immediately communicate to the Commission the text of those provisions.</p> <p>Annex X INFORMATION FOR REGISTRATION AND REPORTING REFERRED TO IN ARTICLE 16</p>			<p>Questions and answers on the revised directive on waste electrical and electronic equipment (WEEE) (http://europa.eu/rapid/press-release_MEMO-08-764_en.htm; Memo/08/764, 2008-12-03)</p>

5 Procedure for registration and verification of the technical requirements

5.1 Process of conformity checking by Member States

The European Member State that performs an EETS Provider Registration have to check the applicant EETS Provider's EC declaration or certificate attesting the compliance of the interoperability constituents.

As far as the interoperability constituents are concerned, they refer to specific approved standards of which the respect has to be declared in a proper manner, through a declaration of the manufacturer or through equivalent means (e.g. DoC by a Notified Body).

The considerations made in the previous chapters bring to an interesting point of analysis, i.e. the Technical Registration includes only the compliance to approved standards, therefore a clear set of reference constraints is immediately available to all parties, namely to, manufacturers and to Member States; a checklist can be derived from the chapter 5 analysis that could be the common tool ensuring consistence in the approach of the European Member States when performing the Technical Registration of an EETS provider.

5.2 Aspects of maintaining the registration

As previously detailed in this deliverable, the article 3 of the Decision 2009/750/EC is defining the requirements (a) to (f) to be fulfilled by the EETS Provider for their registration. The maintenance of the registration of an EETS Provider is conditioned according to the following articles of the Decision 2009/750/EC:

- **The requirement (e) in article 3** says, the EETS provider shall “*maintain a global risk management plan, which is audited at least every 2 years*”;
- **The article 4.1** says, “*EETS Providers shall conclude EETS contracts covering all EETS domains within 24 months following their registration in accordance with Article 19*”;
- **The article 4.2** says, “*EETS Providers shall make a yearly declaration to the Member State of registration concerning their EETS domains coverage*”.
- **The requirement (b) of the article 19.1** says, “*unless otherwise specified, Member States shall verify at least once a year that requirements (a), (d), (e) and (f) in Article 3 and Article 4(2) are still met and update the register accordingly. The register shall also contain the conclusions of the audit foreseen in Article 3(e). A Member State shall not be held liable for the actions of the EETS Providers mentioned in its register*”.

None of these articles of the Decision 2009/750/EC relates the technical requirement (b) and (c) of the article 3 of the Decision 2009/750/EC. As a reminder:

- **The requirement (b) of the article 3** says, the EETS Provider shall “*demonstrate having the technical equipment and the EC declaration or certificate attesting the compliance of the interoperability constituents as laid down in Annex IV(1) of the present Decision*”.
- **The requirement (c) of the article 3** says, the EETS Provider shall “*demonstrate competence in the provision of electronic tolling services or in relevant domains*”.

As a result, **the Decision 2009/750/EC does not impose any technical requirement as for the maintenance of the registration of an EETS Provider already registered in the Member State where it is established** (see work performed within WP1).

Based on the content of the deliverable D2.1, no one of the Member States include specific technical requirements for the maintenance of the registration of the EETS Provider, except possibly France. According to the Article 4 of the decree n° 2011-813⁵ of July 5th 2011, the EETS Provider needs to send each year (before the thirtieth day following the anniversary date of the registration in the register) an update of the information provided for the registration. The EETS Provider can be asked at any time, to provide information concerning the conditions set in Article 2 of this decree, which is similar to the Article 3 of the EETS Decision.

6 Recommendations and considerations for further development of EETS

1. The Technical Registration phase is part of a well defined Institutional path; it has to be clear and easily understood; therefore it should refer to formal documents only (legislation, approved standards) and should not need the support of technical tests;
2. A checklist of the standards or other official specifications to which a EETS OBE has to be compliant with would be beneficial to all the parties, especially to manufacturers and to the Member States Authorities involved in the process; along this line reference to the table 1 in chapter 4.2 of this report is particularly relevant
3. For the purpose of maintaining a rigorous definition of the EETS, it is recommended that the NB-EETS Coordination Group, consistent with the draft powers given to it by the EC:
 - a. elaborates, publishes and maintains an up to date list of applicable documents (including references to standards) that contain the requirements and the associated conformity assessment tests;
 - b. elaborates and publishes a list of required documents to sustain the Declaration of Conformity (DoC). Such a list would provide an effective support for the registrar that is responsible for verifying the validity of the statements by the candidate EP;

- c. elaborates, publishes and maintains a set of common criteria applied by NBs for the NBs' statements, with the aim to achieve equivalence of working practices and ensuring a level playing field.
4. Security compliance cannot be assessed at registration moment due a missing EETS security policy. For the moment, this assessment must be postponed to the accreditation phase. It is highly recommended to develop an EETS security policy as soon as possible. If in future an agreed EETS security policy is available, assessment could be carried out for registration purposes (See also the considerations in chapter 4 about interoperability management).
5. an intermediate level, between the Technical Registration and the full fledged suitability for use, seems to show and to make sense; the intermediate level, i.e. the assessment of commonly agreed (for the sake of simplification) specifications, would allow to the manufacturers or to the EETS Providers a one-stop technical check-point before entering the contractual phase and the suitability for use; this level would be *de facto* be composed of a “market agreement” (i.e. a shared agreement among the stakeholders) of the participating EETS community, would be a voluntary process and might be supported, for instance, by Notified Bodies, that could provide the needed design and test beds for this level. Such an exercise includes though some aspects may prove critical, e.g.:
 - The reference set of conformity specifications that could be put in common for Registration purpose should be drafted, agreed and adopted; the EETS stakeholders should produce the set of specifications and formally endorse it;
 - some institutional level of adoption/endorsement would also be needed in order to make it a formal and recognized part of the process; Registration is an institutional process based on formal legislation and on formal standards, to include components beyond a strict institutional framework would leave to the Member States the choice whether to recognize a less than institutional agreement (a market agreement, indeed), or to proceed during the Registration phase to real tests; the second choice would undoubtedly mean an overburdening of the Registration process, whose acceptability will have to be checked by the parties, first of all by the Member States;
 - new actors coming to the market (e.g. new manufacturers that did not participate in the preparation of the additional specifications set) may not recognize the agreement and might claim that a cartel is trying to restrict the access to the EETS market.

Further to the recommendations some considerations also arise on aspects that may be deemed not complete or not entirely clear, a couple of highlights for consideration can be the following:

- no provision is made for the case of new OBEs introduced by already registered EETS Providers; if the Registration is considered a check of the potential capability of the EP this may

suffice, but some high level consideration on the opportunity of an integration of the information to the Registration Member State in the case of the introduction of new additional OBEs might be appropriate;

- no provision is made as well for a “de-registration” process, be it voluntary or due to failure; it could be useful to pay some attention also to the clarification of this item that can be indeed crucial for EPs (e.g. how the compliance with the 24 months clause for closing contracts Europe-wide will be dealt with?).

Some conclusions can be drawn from the recommendations and from the considerations above:

1. it is desirable to put at disposal of the market, for Registration level purposes, a level of specifications (further to the relevant standards) that encompasses those specific toll domains requirements and that can be put in common, so that the manufacturers could pre-check, prior to deliver the OBEs to the EETS Providers; the set of specifications has to be defined and agreed by the EETS community;
2. even though to clear the assessment of the set of specifications of the point 1 might be desirable at Technical Registration level, this procedure would make the Registration process more burdensome and may open some Institutional disputes; also the re-certification issue would be affected by an expectable additional burden; since the aim is to make the process the simplest and less burdensome possible it appear advisable, for the moment, to limit the Technical Registration to the assessment of compliance to the approved standards; This aspect seems to be an interesting item for the analysis that the WP5 will have to perform on interoperability management; also the WP7 may have a role in implementing this choice, if agreed by the project and accepted by the granting authority (INEA)

Annex I – Glossary

The following table consists of the commonly agreed terms and definitions in the REETS project.

No.	Terminus	Ab-brev.	(short) description
1	Service Provider	SP	<p>Company / Entity offering the services of an EETS-Provider but not necessarily formally registered as an EETS-Provider.</p> <p>Since the REETS Project shall facilitate the transition to EETS, it is recommended, to generally use "Service Provider (SP)", except if "EETS-Provider shall be explicitly addressed (e.g. in the context of registration).</p>
2	EETS-Provider	EP	A legal entity fulfilling the requirements of Art 3 and registered in a Member State where it is established, which grants access to EETS to an EETS user (see Art 2 b) Decision 2009/750/EC).
3	Member State	MS	EU Member State
4	European Electronic Toll Service	EETS	The abbreviation EETS stands for European Electronic Toll Service. It is a service that enables the payment of tolls with a single contract at a single EETS provider and just one on-board unit throughout the European Union.
5	Regional European Electronic Toll Service	REETS	The REETS-TEN project aims at deploying EETS compliant services in a cross-border regional project. The Project shall cover the electronically toll network of 7 Member States (Austria, Denmark, France, Germany, Italy, Poland and Spain) and Switzerland.
6	Toll Charger	TC	Public or private organisation which levies tolls for the circulation of vehicles in a toll domain (see Art 2 k) Decision 2009/750/EC)
7	User		Physical or legal person who subscribes a contract with a Service Provider in order to have access to EETS compliant services (see Art 2 c) Decision 2009/750/EC).

No.	Terminus	Ab- brev.	(short) description
8	On Board Equipment	OBE	The complete set of hardware and software components required for providing EETS compliant services which is installed in a vehicle in order to collect, store, process and remotely receive/transmit data (see Art 2 e) Decision 2009/750/EC)
9	Interoperability constituents		Any elementary component, group of components, subassembly or complete assembly of equipment incorporated or intended to be incorporated into EETS upon which the interoperability of the service depends directly or indirectly, including both tangible objects and intangible objects such as software, see Article 2 of the EETS Decision. Examples of interoperability constituents are on-board equipment (including connected back office systems), roadside equipment (including charging beacons, localization augmentation beacons and enforcement devices), EETS Providers' and Toll Chargers' back-office data exchange systems.
10	Toll		A charge, tax or duty levied in relation with circulating a vehicle in a toll domain (see Art 2 j) Decision 2009/750/EC)
11	Toll domain		An area of EU territory, a part of the European road network or a structure (such as a tunnel, a bridge, a ferry,..) where toll is collected (see Art 2 n) Decision 2009/750/EC).
12	Tariff class		The set of vehicles treated similarly by a Toll Charger (see Art 2 g) Decision 2009/750/EC).
13	Vehicle classification parameters		The vehicle related information according to which tolls are calculated based on the Toll Context Data (see Art 2 q) Decision 2009/750/EC).
14	Certification		Certification is defined as an EETS Provider's or its representative's official written statement that its interoperability constituents comply with the associated specified (technical) requirements.

No.	Terminus	Ab- brev.	(short) description
15	Technical accreditation		Technical accreditation covers the technical aspects of the accreditation of an already registered EETS Provider in individual toll domains under responsibility of a Toll Charger (or a cluster of Toll Chargers).
16	Technical requirements for registration		Requirements defined by the Member State responsible for the registration to check against Article 3b of the EETS decision
17	Toll domain independent specifications		Technical specifications for interoperability constituents that are defined by technical standards or other regulations or specifications independently from individual toll domain requirements
18	Toll domain specific specifications		Technical specifications for interoperability constituents that comprise requirements that are specific to the needs of a toll domain
19	Security Policy		A Security Policy is a set of requirements and applicable counter measures specified by the party responsible for the security in a system exposed to threats. These counter measures are based upon a risk analysis of the system in order to protect those data exposed to threats in the relationships between TC and SP.

No.	Terminus	Ab- brev.	(short) description
20	Cluster		<p>A cluster of ETC Toll Domains is a set of Toll Domains, interconnected or not, which feature the same or very similar ETC toll collection context(s) in a contractual framework like Memorandum Of Understanding or any other agreement between the Toll Domain representatives, <i>i.e.</i> the Toll Chargers.</p> <p>This agreement specifies the rules regarding interoperability and its management within that cluster of ETS Toll Domains; it includes references to mutually agreed and shared detailed contractual, procedural and operational documentation as well functional and technical specifications (particularly, interfaces for OBU // RSE and for Toll Charger // Service Provider central systems). A cluster of Toll Domains may have a unique representative for some common subjects.</p> <p>Relationship between Toll Domains and Service Providers are fixed by bilateral contracts. Common validity periods of bilateral contracts with a given ETC Provider allow the interoperability for the global cluster.</p>
21	Accreditation		<p>The Accreditation covers the whole procedure (contractual and technical) to be successfully fulfilled by a Service Provider in order that its technical system could be accepted on a Toll Domain and that the TC entrusts the SP with the toll collection and the invoicing process to the SU.</p> <p>When the Accreditation is successfully completed, the Service Provider is “accredited” in the relevant Toll Domain.</p>

Annex II – Referenced documents

DIRECTIVE 2004/52/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on the interoperability of electronic road toll systems in the Community

COMMISSION DECISION 2009/750/EC of 6 October 2009 on the definition of the European Electronic Toll Service and its technical elements

3GPP TS 03.60 Technical Specification 3rd Generation Partner-ship Project - Technical Specification Group Services and System Aspects:

- Digital cellular telecommunications system (Phase 2+) - General Packet Radio Service (GPRS) - Service description - Stage 2
- General Packet Radio Service (GPRS); Service description - Stage 2

EN 301 489, Electromagnetic compatibility and Radio spectrum Matters (ERM) - Electromagnetic Compatibility (EMC) standard for radio equipment and services

- Part 1: Common technical requirements (ETSI EN 301489-1 V1.9.2 (2011-09))
- Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz
- Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)

EN 15509:2007, Road transport and traffic telematics - Electronic fee collection - Interoperability application profile for DSRC

EN 15876, Electronic fee collection - Evaluation of on-board and roadside equipment for conformity to EN 15509

- Part 1: Test suite structure and test purposes (2010+A1:2012)
- Part 2: Abstract test suite (2011)

ETSI ES 200674-1: 2012-08, Intelligent Transport Systems (ITS); Road Transport and Traffic Telematics (RTTT); Dedicated Short Range Communications (DSRC); Part 1: Technical characteristics and test methods for High Data Rate (HDR) data transmission equipment operating in the 5,8 GHz Industrial, Scientific and Medical (ISM) band

CEN ISO/TS 12183:2009, Electronic fee collection - Compliance check communication for autonomous systems

CEN ISO/TS 13143, Electronic fee collection - Evaluation of on-board and roadside equipment for conformity to ISO/TS 12813

- Part 1: Test suite structure and test purposes (2011)
- Part 2: Abstract test suite (2011)

CEN ISO/TS 13141:2010+AC 2013, Electronic fee collection - Localisation augmentation communication for autonomous systems

CEN ISO/TS 13140, Electronic fee collection - Evaluation of on-board and roadside equipment for conformity to ISO/TS 13141

- Part 1: Test suite structure and test purposes (2011)
- Part 2: Abstract test suite (2012)

DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity

EN 300674-2-2: 2004-08, Electromagnetic compatibility and Radio spectrum Matters (ERM); Road Transport and Traffic Telematics (RTTT); Dedicated Short Range Communication (DSRC) transmission equipment (500 kbit/s / 250 kbit/s) operating in the 5,8 GHz Industrial, Scientific and Medical (ISM) band; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive;

EN 301511:2003-03 Global System for Mobile communications (GSM); Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC)

EN 300328:2012-06 Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

DIRECTIVE 2004/108/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC

EN 301489 Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services;

-1:2011-09 Part 1: Common technical requirements

-3:2012-07 Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz

-7:2005-11 Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)

-17: 2012-09 Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)

DIRECTIVE 2006/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits

EN IEC 60950-1 Information technology equipment - Safety - Part 1: General requirements

Annex III – EC Declaration of Conformity for EETS OBE

Introduction

This annex provides a template for EC Declaration of Conformity for EETS OBE in accordance with the model structure set out in Annex III of Decision No 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products, and tailored to take into account the definition of the EETS and its technical elements. It shall, according to 768/2008/EC, be translated into the language or languages required by the Member State in which market the product is placed or made available.

It is recommended (see also chapter 4.2) that the NB-EETS Coordination Group elaborates, publishes and maintains an up to date list of applicable documents that contain the requirements and the associated conformity assessment tests, for which successful verification give the right to claim presumption of conformity, relevant for Declaration of Conformity (DoC) to EETS. Such a list would provide an effective support for the registrar that is responsible for verifying the validity of the statements by the candidate EP including the EC declaration of conformity for EETS OBE by the respective manufacturer.

While waiting for elaboration and publication of such an official list, this annex provides the REETS project's perception of the currently applicable documents for EETS specific OBE requirements¹ in italics, with the recommended associated test standards highlighted in parenthesis, (see field 6 below) and offered as an input to the NB-EETS Coordination Group.

For clarity, this annex has no legal power and hence does not affect the legal provisions related to the EETS. Hence, the registrar is responsible for verifying the validity of the statements by the candidate EP and his OBE manufacturer(s) and decides, within the limits of the defined legal framework, what he requires for attesting the compliance of the interoperability constituents.

Template for EC Declaration of Conformity for EETS OBE

1. No ... (unique identification of the product):
2. Name and address of the manufacturer or his authorised representative:
3. This declaration of conformity is issued under the sole responsibility of the manufacturer (or installer):
4. Object of the declaration (identification of product allowing traceability. It may include a photograph, where appropriate):
5. The object of the declaration described above is in conformity with the relevant Communication harmonisation legislation:

Directive 2004/52/EC of the European Parliament and of the Council of 29 April 2004 on the interoperability of electronic road toll systems in the Community

Commission Decision 2009/750/EC of 6 October 2009 on the definition of the European Electronic Toll Service and its technical elements

6. References to the relevant harmonised standards used or references to the specifications in relation to which conformity is declared:

Satellite positioning: (identification of the satellite positioning technology/ies)

Mobile communications using the GSM-GPRS standard: reference GSM TS 03.60/23.060 (EN 301 489-1:2011-09, EN 301 489:2013-08 and EN 301 489-7:2005-11)

DSRC 5.8 GHz charging transactions: EN 15509:2007 (EN 15876-1:2010+A1:2012 and EN 15876-2:2011) and ETSI ES 200674-1:2012

Real-time compliance checking transactions: CEN ISO/TS 12183:2009 (CEN ISO/TS 13143-1:2011 and CEN ISO/TS 13143-2:2011)

Localisation augmentation: CEN ISO/TS 13141:2010+Cor1:2013 (CEN ISO/TS 13140-1:2011 and CEN ISO/TS 13140-2:2012)

Information exchange between service provision and toll charging: EN ISO 12855:2012+Cor1:2013

7. Where applicable, the notified body ... (name, number) ... performed.... description of the intervention) and issued the certificate:

8. Additional information:

9. Signed for and on behalf of:

(place and date of issue):

(name, function) (signature):

ⁱ General relevant essential requirements for placing of equipment on the European market are found in tables 2.1, 2.2 and 2.3 in chapter 4.2