



ERTMS/ETCS – Class 1

**Responsibilities and rules for the assignment of values
to ETCS variables**

REF : SUBSET-054

ISSUE : 2.1.0

DATE : 2010-11-23

1. MODIFICATION HISTORY

Issue Number Date	Section Number	Modification / Description	Author
0.0.1 / 2000-02-14	All	Draft	B. Stamm
0.0.2 / 2000-02-17	All	Minor changes to NID_STM	B. Stamm
0.1.0 / 2000-02-23	All	Update after UNISIG review	B. Stamm
1.0.0 / 2000-03-02	All	Update after review by ECSAG, values extracted to separate document for UIC handling	B. Stamm
2.0.0 / 2000-03-30	References	Final Issue to ECSAG	D. Degavre (Ed)
2.0.1 / 2006-06-30	All	Taking over by ERA	E. Lepailleur
2.0.2 / 2006-11-03	All	Update after review by CG and proposal for variable identifying KMC	E. Lepailleur
2.0.3 / 2007-01-16	All	Responses to comments from CER, EEIG and SG	E. Lepailleur
2.0.4 / 2008-09-10	All	Responses to comments from CER, EEIG	E. Lepailleur
2.0.5 / 2010-05-20	All	Responses to comments from EIM	E. Lepailleur
2.0.6 / 2010-10-01	All	ERA internal review	E. Lepailleur
2.0.7 / 2010-11-15	All	Update after review by CG	A. Hougardy
2.1.0 / 2010-11-23	-	Release version	E. Lepailleur

2. TABLE OF CONTENTS

1. MODIFICATION HISTORY.....	2
2. TABLE OF CONTENTS.....	3
3. INTRODUCTION.....	4
3.1 Purpose	4
3.2 Scope.....	4
3.3 References	5
3.4 Classification of responsible organisations.....	5
3.5 Description of the Process for assigning values	5
3.6 Acronyms.....	6
4. DETAILED LIST OF VARIABLES	7
4.1.1 M_LOADINGGAUGE (SRS 7.5.1.63).....	7
4.1.2 M_TRACTION (SRS 7.5.1.78).....	7
4.1.3 Intentionally deleted	7
4.1.4 Q_TEXT (SRS 7.5.1.136)	7
4.1.5 NC_TRAIN (SRS 7.5.1.81)	7
4.1.6 NID_BG (SRS 7.5.1.85).....	7
4.1.7 NID_C (SRS 7.5.1.86)	8
4.1.8 NID_ENGINE (SRS 7.5.1.88)	8
4.1.9 NID_LOOP (SRS 7.5.1.89)	8
4.1.10 NID_RBC (SRS 7.5.1.96).....	9
4.1.11 NID_RIU (SRS 7.5.1.97)	9
4.1.12 NID_STM (SRS 7.5.1.98).....	9
4.1.13 NID_XUSER (SRS 7.5.1.100).....	9
4.1.14 NID_MN (SRS 7.5.1.91.1).....	9
4.1.15 NID_RADIO (SRS 7.5.1.95).....	10
4.1.16 NID_KMC (SUBSET-037, table 24, ref. [2])	10

3. INTRODUCTION

3.1 Purpose

- 3.1.1.1 This document defines the responsible organisations and provides the rules for the assignment of values to the ETCS variables as mentioned in section 7.3.1.3 of the ETCS SRS (see [1]).
- 3.1.1.2 Intentionally deleted.
- 3.1.1.3 Intentionally deleted.
- 3.1.1.4 Intentionally deleted.
- 3.1.1.4.1 Intentionally deleted.

3.2 Scope

- 3.2.1.1 The European Train Control System ETCS, which is the Control-Command part of the European Rail Traffic Management System: ERTMS, is designed to fulfil the different needs of the various European railways, and to achieve interoperability between them. To achieve this aim, a large number of functions is included, some of which are configurable by the users.
- 3.2.1.2 System configuration in ETCS is achieved by assigning appropriate values to certain ETCS variables. These are then used by the different components of the system and, if necessary, exchanged between them.
- 3.2.1.3 Some of these values are assigned and transmitted between components of ETCS (especially trackside and onboard) during the use of the system. They remain valid until new values are received, which is often done at national borders. The content of these variables is referred to as national values. Their handling is not part of this document.
- 3.2.1.4 Other variables have values assigned on a permanent basis. Care has to be taken not to assign identical values in different places, especially as the use of GSM-R as radio system will make it possible to transmit ERTMS/ETCS information worldwide. Reasons for this may be functional or safety related.
- 3.2.1.5 This assignment of values requires therefore co-ordination between the applications of different users or even within the application of a single user, but outside the scope of the SRS.
- 3.2.1.6 The responsibility for the assignment and the relevant rules are listed under the names of the relevant variables in chapter 4.
- 3.2.1.7 Throughout this document, the term “member state” is referred either as an entity responsible for national assignment of values or as a requesting organisation for

values of variables that need international co-ordination. For countries not members of the EU, cooperation with the ERA should be established in order to apply the rules listed in this document, which are applicable to EU member states (i.e. in order to avoid unwanted, possibly unsafe, consequences of the use of inappropriate values of variables that need international co-ordination).

3.2.1.8 Intentionally deleted.

3.2.1.9 Intentionally deleted.

3.2.1.10 Intentionally deleted.

3.2.1.11 Intentionally deleted.

3.3 References

- [1] ERTMS/ETCS Class 1 System Requirements Specification, SUBSET-026 v230.
- [2] ERTMS/ETCS Class 1 Euroradio FIS SUBSET-037 v230

3.4 Classification of responsible organisations

3.4.1.1 The following organisations are listed as being responsible for assigning values:

Name	Responsibilities
ERA	For variables which need international co-ordination, the ERA is responsible for assigning unique values or range of values to the requesting organisations.
Member States	For variables which need national co-ordination, the Member States are responsible for assigning unique values. They may delegate some or all of the allocation to railways undertakings, infrastructure managers or any other suitable organisations.

3.5 Description of the Process for assigning values

3.5.1.1 The assignment of all new values is guaranteed by the responsible organisation as defined in chapter 4 of this document for each ETCS variable.

3.5.1.2 Regarding the ETCS variables, which need international co-ordination (i.e. which ERA is responsible for) they will be assigned new values on the basis of request by the organisation which needs such value(s). The procedure for the assignment of values to such variables, together with the listing of assigned values, is maintained and published by ERA.

3.5.1.2.1 Exception 1: the variables referred in sections 4.1.1 (M_LOADINGGAUGE), 4.1.2 (M_TRACTION), 4.1.4 (Q_TEXT), 4.1.5 (NC_TRAIN) cannot be assigned new values according to the procedure referred in 3.5.1.2, as they do affect the ERTMS/ETCS on-board functionality. They are considered as baseline dependent and therefore can only be modified according to the Change Control Management of the ERTMS

specifications. Before they can be removed from this document and fully described in the SRS itself, the currently assigned values are temporarily published by ERA in the same document as the other variables needing international coordination.

- 3.5.1.2.2 Exception 2: in spite of its reference to the SRS clause 7.3.1.3, the variable NID_OPERATIONAL (SRS 7.5.1.92) need not to follow the rules listed in this document. Justification: the allocation of running number to trains follows the rules established by Infrastructure Manager for operations on its lines and is only done for the time of a mission (i.e. not on a permanent basis in the ERTMS/ETC on-board equipment).

3.6 Acronyms

IMSI International Mobile Subscriber Identity (GSM term)

MCC Mobile Country Code (GSM term)

MNC Mobile Network Code (GSM term)

4. DETAILED LIST OF VARIABLES

4.1.1 M_LOADINGGAUGE (SRS 7.5.1.63)

4.1.1.1 Responsible: ERA

4.1.1.2 The purpose of this variable is to allow ETCS to supervise whether a train's loading gauge suits the permitted loading gauge on a track.

4.1.1.3 Intentionally deleted.

4.1.2 M_TRACTION (SRS 7.5.1.78)

4.1.2.1 Responsible: ERA

4.1.2.2 This variable uniquely defines the type of electrical traction system used on a specified line.

4.1.2.3 Each value corresponds to a specific set of values of the interoperable parameters, which are listed in the TSI ENE, i.e. voltage, frequency, maximum train current, accepted pantograph profile(s), permitted contact strip material, etc..

4.1.2.4 Intentionally deleted.

4.1.3 Intentionally deleted

4.1.4 Q_TEXT (SRS 7.5.1.136)

4.1.4.1 Responsible: ERA

4.1.4.2 The purpose of this variable is to display fixed text message in a language selected by the driver.

4.1.4.3 Intentionally deleted.

4.1.5 NC_TRAIN (SRS 7.5.1.81)

4.1.5.1 Responsible: ERA

4.1.5.2 This variable uniquely defines the harmonized international train categories.

4.1.5.3 Intentionally deleted.

4.1.6 NID_BG (SRS 7.5.1.85)

4.1.6.1 Responsible: Member States

4.1.6.2 This variable uniquely defines the identity number of a balise group within the country or region defined by NID_C.

4.1.6.3 The Member State assigns these values to the entity responsible of the track side assemblies.

4.1.6.4 Intentionally deleted.

4.1.7 NID_C (SRS 7.5.1.86)

4.1.7.1 Responsible: ERA

4.1.7.2 This variable uniquely defines the identity number of an area in which ETCS is implemented.

4.1.7.3 Intentionally deleted.

4.1.7.4 Note: An area need not necessarily to follow administrative or political boundaries. An area can be a country, a region or any defined exploitation domain.

4.1.7.5 Intentionally deleted.

4.1.7.6 ERA will assign the NID_C values to a Member State.

4.1.7.7 Intentionally deleted.

4.1.7.8 The Member State assigns these NID_C values to the entity responsible of the track side assemblies.

4.1.7.9 Intentionally deleted.

4.1.8 NID_ENGINE (SRS 7.5.1.88)

4.1.8.1 Responsible: ERA

4.1.8.2 Intentionally deleted.

4.1.8.3 This variable uniquely defines the identity number of an ERTMS/ETCS onboard equipment in service.

4.1.8.4 ERA will assign the NID_ENGINE values to the supplier who puts onboard equipment on the market.

4.1.9 NID_LOOP (SRS 7.5.1.89)

4.1.9.1 Responsible: Member States

4.1.9.2 This variable uniquely defines the identity number of a loop within the country or region defined by NID_C.

4.1.9.3 The Member State assigns the NID_LOOP values to the entity responsible of the track side assemblies.

4.1.10 NID_RBC (SRS 7.5.1.96)

4.1.10.1 Responsible: Member States

4.1.10.2 This variable uniquely defines the identity number of an RBC within the country or region defined by NID_C.

4.1.10.3 The Member State assigns the NID_RBC values to the entity responsible of the track side assemblies.

4.1.11 NID_RIU (SRS 7.5.1.97)

4.1.11.1 Responsible: Member States

4.1.11.2 This variable uniquely defines the identity number of a radio in-fill unit within the country or region defined by NID_C.

4.1.11.3 The Member State assigns the NID_RIU values to the entity responsible of the track side assemblies.

4.1.12 NID_STM (SRS 7.5.1.98)

4.1.12.1 Responsible: ERA

4.1.12.2 This variable uniquely defines the identity number of an existing national system or group of national systems.

4.1.12.3 Note: If different national systems are used in parallel and if they depend on each other to operate safely (e.g. one being fallback for the other one) they may be implemented as a group of national systems combined in one STM. An individual value can therefore be assigned to a group of national systems combined in one STM.

4.1.12.4 ERA assigns the NID_STM value on request of a Member State.

4.1.13 NID_XUSER (SRS 7.5.1.100)

4.1.13.1 Responsible: ERA

4.1.13.2 This variable uniquely defines the identity number of a specific user system for which the remainder of packet 44 is intended.

4.1.13.3 Note: A user may use his value of NID_XUSER for more than one purpose as long as he organises his data inside packet 44 in a way that adequately distinguishes between them.

4.1.13.4 ERA assigns the NID_XUSER value only on request of a Member State.

4.1.14 NID_MN (SRS 7.5.1.91.1)

4.1.14.1 Responsible: Member States

- 4.1.14.2 This variable uniquely defines the identity number of the GSM-R network the mobile has to register with.
- 4.1.14.3 NID_MN shall contain the network identification value, which is the MCC and MNC part of the IMSI numbers used in the concerned network.
- 4.1.14.4 The Member State assigns the NID_MN values to the entity responsible of the track side assemblies.

4.1.15 NID_RADIO (SRS 7.5.1.95)

- 4.1.15.1 Responsible: Member States
- 4.1.15.2 This variable uniquely defines the radio subscriber number of the concerned entity (RBC / EVC / RIU) in the exact format as it needs to be dialled including prefix or breakout values.
- 4.1.15.3 The maximum number, including break out value "00" or "9xx", shall not exceed 16 digits and the contents of the number is transparent to ETCS.
- 4.1.15.4 The Member State assigns the NID_RADIO values to the operator of the network according to the GSM-R SRS rules.

4.1.16 NID_KMC (SUBSET-037, table 24, ref. [2])

- 4.1.16.1 Responsible: Member States
- 4.1.16.2 This variable uniquely defines the identity number of a Key Management Center within the country or region defined by NID_C.
- 4.1.16.3 The Member State assigns the NID_KMC value to the entity responsible of the KMC.