

RCA - UESC

Joint statement

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List of abbreviations:

CCS	Control Command Signalling
RCA	Reference CCS Architecture
RCA-SG	RCA Strategy Group
UESC	Unife ETCS Steering Committee
RU	Railway Undertaking
IM	Infrastructure Manager

1 Introduction

The Reference CCS Architecture (RCA) Strategy Group (RCA-SG) and the UNIFE ERTMS Steering Committee (UESC) shared their views about the issues which need to be addressed in the context of a future Control Command Signalling (CCS) Framework. This document summarizes the view shared by these two Parties, as well as elements where they must deepen their joint understanding.

This document is intended for external communication to other stakeholders in the field of CCS.

2 Problem statement

The Parties are conscious that the Railway System is playing a key role in providing solutions for the challenges the Society is facing, like mobility and global climate change. Consequently, the pressure is mounting on all actors to achieve the goals of increased capability including capacity, reliability, availability, maintainability, safety and security of the railway system whilst reducing whole life cycle costs.

ERTMS is an important step towards achieving the goals of increased capability and reduced whole life costs. However, analysis has demonstrated that fully delivering the required capability can only be reached if the design, operation and management of the networks and vehicles is based purely on radio based ETCS cab signalling. The achievement of these goals is also dependent on removing legacy CCS systems and their national operations.

Moreover, the speed of implementation of new infrastructure projects has to increase to meet the mandatory replacement rate of the aging infrastructure.

The Parties recognise that there is an urgent need to develop systems and processes to achieve the above goals and that a European wide future CCS Framework will provide a modular platform that is best able to successfully deliver these goals. RCA is one of a number of initiatives aiming to contribute to the same goals.

The Parties agree that a high degree of standardisation and automation is required, as well as a high degree of cooperation among the Stakeholders.

3 Considerations

The RCA-SG and UESC see the benefit of working together on the future CCS Architecture, however with the following considerations taken into account.

3.1 Positive business cases

To achieve a sustainable market uptake, a future CCS Architecture shall have a positive impact on the business cases of the major stakeholders including Railway Undertakings (RUs), Infrastructure Managers (IMs) and Suppliers.

3.2 Implementation of European Deployment Plan

An efficient migration path from current CCS solutions to a future CCS Architecture shall support the implementation of the European ETCS Deployment Plan.

A major challenge is the implementation of the ERTMS Game Changers by keeping interoperability and the protection of the investments done so far.

The development of a future European CCS framework requires the convergence and harmonisation of the business, operational and technical requirements of the major stakeholders including IMs, RUs and Suppliers.

3.3 Focus of activities

The focus of the RCA-SG is on future oriented solutions, which are based on cab-signalling and radio-based ETCS.

UESC agrees that these solutions provide best potential for achieving the capability and whole life cycle goals. Nevertheless, some railways may still invest (and continue to invest) in ETCS L1. Industry will therefore also continue to provide ETCS L1 solutions to those customers with the option for later migration to radio-based ETCS.

3.4 Harmonized operation

RCA SG and UESC understand differences in operation between IMs as one of the root causes for complexity and hence is a major cost driver.

The harmonization of operational principles under cab signalling and radio-based ETCS is key to achieve generic ETCS subsystems and reduce national requirements to a minimum. The Parties are convinced that this will lead to the achievement of the capability and whole life cost goals

It is recognised that operation cannot be totally harmonized in Europe for the existing railway system. It is therefore imperative to focus on cab signalling and radio-based ETCS only. Example: Normal operation with ETCS L3 shall be designed around exclusive use of cab signalling without trackside signals.

3.5 Interoperability

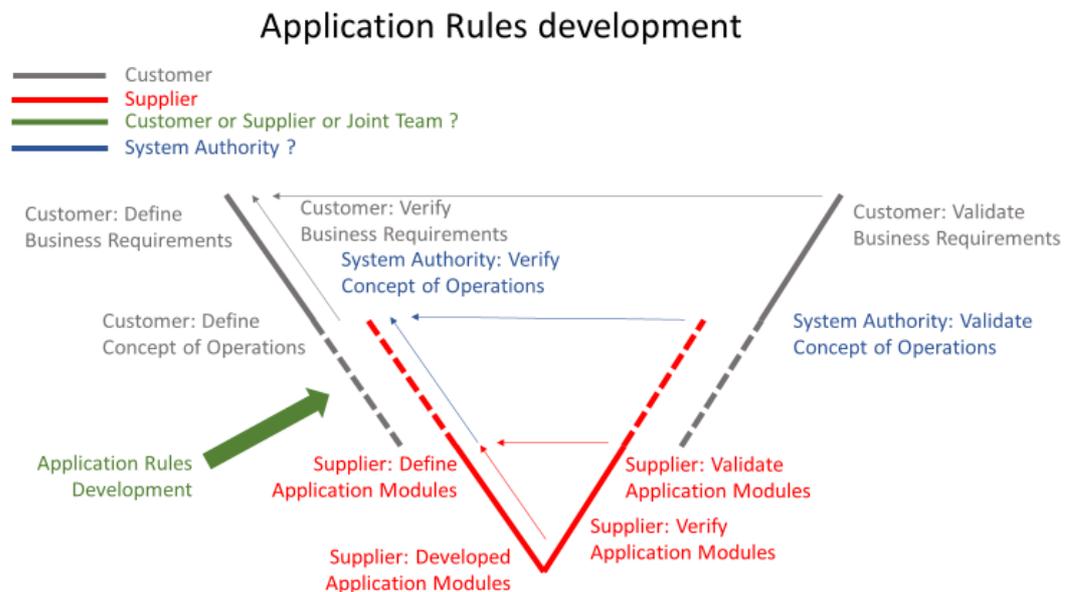
The interoperability of trackside with ETCS OBU (compliant with evolution of the TSI CCS as planned today) shall be kept, because any unnecessary additional burden for RUs shall be avoided. In case of an overall positive business case for all stakeholders, appropriate compensation for the RUs may be required.

3.6 Adequate organisation

The Parties agree that an efficient organisation is necessary to develop and maintain the future CCS-Architecture specifications.

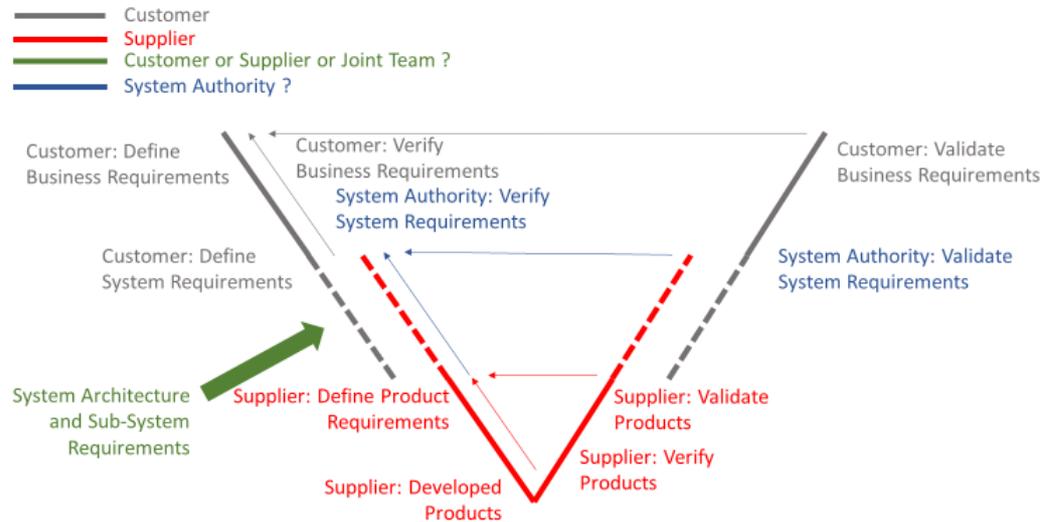
An organisational framework for controlled and managed CCS Architecture development and maintenance has been discussed, but needs to be defined in further detail.

The Parties recognise the following responsibilities of railways, suppliers and system authority for application rules development:



Similarly, the responsibilities of railways, suppliers and system authority for system development:

System/product development



Note: Suppliers may have an advisory and reviewer role in the customer led processes of defining Business Requirements and System Requirements/Concept of Operations.

The Parties recognize that S2R can be an appropriate instrument to specify, develop and test the future CCS Architecture solutions provided its governance and decision processes are adjusted to allow for the required speed and transparency for the larger community of railways and suppliers.

Currently, S2R provides large European funding opportunities.

Despite the above considerations, the Parties did not agree that S2R is the only development instrument. This aligns with RCA-SG intention to develop tender templates as a basis for early implementation projects.

The RCA work on System Requirements and Operational Concepts and the Railways initiated development projects (including application rules development) are relevant inputs for the S2R development projects.

As S2R is a temporary development organisation, the European CCS framework needs to be supported with a permanent change management structure. The Parties recognise that ERA can potentially perform the role of System Authority, provided its mandate is extended to the wide CCS and with adequate resourcing.

The Parties recognize also the need of establishing a European high-level governance for the future CCS arrangements under the leadership of DG MOVE. This could be facilitated by the ERTMS Stakeholders Platform.

3.7 Level of system decomposition

The level of decomposition (to which extent the system is decomposed by modules with standard interfaces between) has also an economic impact, influencing the business cases of IMs, RUs and Suppliers. Railways expect a higher level of decomposition as

beneficial, whereas suppliers assume a positive impact if the focus is on the most important interfaces. It is unknown currently which level of decomposition would be most advantageous for all concerned parties in the end.

3.8 Other initiatives to increase cost efficiency

The Parties recognise that the Sector could launch immediate initiatives which increase the cost efficiency of signalling solutions independently from the future CCS Architecture, e.g. a common engineering data base format or solution for possession management.

The Parties agreed that, as a starting point for operational harmonisation, the standardisation of the concept of Start of Mission for ETCS Level 2 can be worked on immediately.

4 Conclusions

After the three meetings between the UESC and RCA-SG members, the following conclusions were reached:

- RCA-SG and UESC agree that:
 - 1) RCA is an evolutionary process aimed at reaching the target of a harmonised future CCS Architecture with radio-based ETCS
 - 2) Shift2Rail is an adequate instrument to develop the future CCS, provided its governance is adjusted. Anyway, the Parties did not agree that S2R should be the only instrument.
 - 3) The need for high level governance at European level is recognised
- The roles and responsibilities in all domains of the overall CCS system have to be defined, including the role of ERA as the possible System Authority.
- Next steps are:
 - 1) Definition of the responsibilities in the overall development framework
 - 2) To channel the high-level discussion between RCA-SG and UESC into the workstreams of Shift2Rail (architecture) and ERTMS Stakeholder Platform (process and responsibilities).

The future CCS Architecture developed by the RCA Group has not been discussed in these meetings, so no agreement can be assumed yet on the proposed functional blocks and interfaces.

5 Communication

Once agreed by UESC and RCA-SG, this document can be made available upon request for all stakeholders in the field of CCS and published on the websites of UNIFE, EUG and EULYNX.