

Extrait du INESS Project

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Context & Objectives

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Current European Framework for the Rail Industry

The railway industries throughout Europe face increasing competition with other modes of transport and with other manufacturers from Asia and Russia. They are therefore under constant pressure for cost-effective operations.

To resolve the situation, the European Commission announced a set of new proposals to revitalise the rail transport. The priority to be addressed to solve the problems holding back its development concerns the lack of infrastructure and interoperability between networks and systems. Particular attention has been paid to a critical part of the overall rail system: the signalling system which is highly relevant for the performance and the safety of train operations.

Railway signalling systems transitioning from traditional national solutions towards ERTMS compliance

The convergence of the ERTMS vision in the railway sector, with the accompanying ETCS and GSM-R standards, has brought about a degree of cross border cooperation not previously seen. Railway Operators and Infrastructure Managers are now engaging with a united supply industry to achieve the common goal of an interoperable system, within the framework of European legislation, which potentially forms a set of legal obligations all have to comply with. A set of standards has been created within these obligations but, as with any standardisation process, joint efforts are needed from all parties to translate such work into tangible results.

The new TSI related to Command/Control/Signalling for Conventional Rail foresees that ERTMS will be rolled out over international corridors covering initial inception kernels. The EC and the European Railway Associations together with the Railway Supply Industry have agreed to work closely together to define a realisable migration strategy for ERTMS. This unique cooperation has offered the possibility to coordinate the implementation of the constituent parts of ERTMS - the traffic-management layer, the train communication and train control system.

Further momentum can be added to this process by ensuring that the most significant sub-systems of railway command and control systems, such as interlockings are developed in line with this programme.

Main Objectives

The INESS project will define and develop specifications for a new generation of interlocking systems, and will thus extend and enhance the standardisation process. It will further lead to industry being more directly involved with Infrastructure Managers in developing innovative solutions for the future based on an enhanced and common

understanding of the operational requirements needing to be delivered into the railway transportation system.

The project aims to :



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- **Develop** the business model and cooperation models to support migration strategies for ERTMS.
- **Harmonise** data file formats, design tools, data transfer for production, data flows linked with system architectures and maximise the knowledge base of owned assets within the railway infrastructure.
- **Produce** a common core of validated standardised functional requirements for future interlockings.
- **Identify** the influence of ETCS levels 2 and 3 on the functional architecture and to propose an architecture for interlockings and the adjacent subsystems.
- **Provide** safety-verified test tools and techniques to enable the testing and commissioning of signalling applications.
- **Identify** an efficient way for an interpretation of the safety case process according to the relevant CENELEC standard.