The newsletter of ERTMS

signal

the European Rail Traffic Management System

Issue number 21,
November 2010

Also included in this issue:

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Your latest issue of *Signal* focuses on the proposals made by key stakeholders to simplify deployment of ERTMS with a view to speeding up its full implementation in as cost-effective a manner as possible. These proposals are based around three basic principles of harmonisation, standardisation and coordination. In a similar vein and also in this issue, the Community of European Railway and Infrastructure Companies gives its qualified approval to the Commission's proposal to cut infrastructure access charges for European Train Control System-equipped trains.

The Signal team

Key stakeholders make proposals to simplify ERTMS deployment

Since the signature by railway associations and the European Commission of the ERTMS Memorandum of Understanding in Rome in July 2008, work to speed up deployment of ERTMS has continued across Europe. In 2009, the Commission adopted the European Deployment Plan, setting out Member States' ERTMS deployment obligations for 2015 and 2020. More recently, key stakeholders have taken steps to identify the main technical obstacles to accelerating ERTMS deployment. During the summer of 2010, the Community of European Railway and Infrastructure Companies (CER), the European Rail Infrastructure Managers (EIM), the Association of the European Rail Industry (UNIFE) and the ERTMS Users group delivered a joint set of recommendations, which are now being discussed in detail.

The outcome of this simplification exercise can be summed up in three basic concepts:

Harmonisation of:
- operations
- authorisation procedures

Standardisation of:
- tendering requirements
- ERTMS products
- testing procedures

Coordination:
- of investment in implementation
- between ERTMS and legacy systems during transition

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Directorate-General for Mobility and Transport

EUROPEAN COMMISSION

1. Harmonisation

Operations

Operational harmonisation is one of the original priorities for ERTMS rail corridors, along with ERTMS deployment and enhancement of infrastructure capacity. The impact of the economic downturn on public finances has necessitated a review of objectives in order to identify measures to make ERTMS corridors more efficient for the lowest possible cost.

Operational harmonisation encompasses various important aspects for rail competitiveness such as:

- speeding up border-crossing procedures. Some of these concern safety matters and are not usually corridor specific. Successful harmonisation of requirements for fire-extinguishers or rear-end signals shows that progress is possible. Discussions on other non-ERTMS issues, such as calculating braking performance parameters, are also progressing well;
- engineering rules related to situations such as access to an ERTMS-equipped line. Technically, the system is flexible and can, for example, send a text message to the driver and then establish radio communication with a trackside centre or vice versa. Harmonisation would enable all situations to be handled in a standard way, as well as reducing interoperability risks;
- coordination across entire corridors, such as for allocation of paths;
- parameters such as train length and weight or operational speed. Corridors must function in an integrated way in order to facilitate analysis of costs and benefits of upgrades. Upgrades will only succeed if a consistent strategy is implemented all along a corridor.

All of these aspects can contribute to substantial improvements in corridor performance at minimal cost provided activities are well coordinated.

Authorisation procedures

Discussion with the rail sector and specifically with the industry shows that authorisation is a major bottleneck for ERTMS deployment. Specific national requirements remain an issue and contribute to pushing up ERTMS equipment costs, both trackside and onboard.

Here, it appears that there is a need to escape from a vicious circle comprising:

- national-level safety requirements which slow down deployment of ERTMS equipment while increasing costs,
- tendering requirements, due to which railway companies often obtain (without necessarily being aware of it) equipment with only some of the functionalities specified in the SRS 2.3.0d document as necessary for ERTMS deployment,
- and subsequently potentially incompatible ERTMS equipment, particularly when it comes from different manufacturers and separate tendering procedures.

'One-size-fits-all' ERTMS on-board equipment is thus vital, as without this interoperability is impossible.


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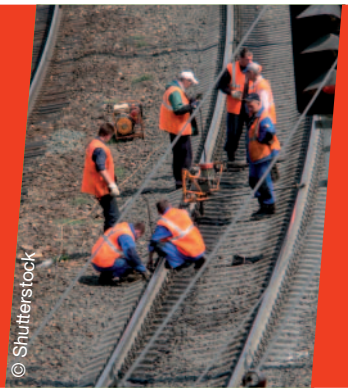
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2. Standardisation

Tendering requirements

Projects launching a tender should add an 'upgrade clause' to ensure that the software is maintained and upgraded to Baseline 3 if and when necessary. Common technical specifications, including upgrade clauses, are necessary for ERTMS tendering so as to ensure that customer requirements (both for railway undertakings (RU) and infrastructure managers (IM)) only vary for elements which are absolutely necessary under specific operational conditions and which adhere to European interoperability standards. An increasing number of bodies are opting to include maintenance, including software upgrades, in calls for tender. Development at EU level of a common tender template which includes post-installation activities would further ensure consistency and quality.

Experience gained from corridor management committees is valuable in this area since they have an overview of corridor-oriented requirements. They could be consulted on ERTMS technical tender specifications.

Dialogue between customers (i.e. RU), ERTMS manufacturers, national safety authorities and ERA should be enhanced in order to accelerate cross-acceptance and lay foundations for a possible corridor-based European authorisation process. For this, ERA could be given additional powers to monitor corridor authorisation.

ERTMS products

ERA has worked together with the sector to develop engineering guidelines and a first set has been delivered recently. This shows that however complex a system may be, compromise is possible. ERA also contributes to harmonisation of operational rules. Issues such as determination of braking curve parameters for a given train and standardisation of interfaces between onboard units and trains are still to be addressed jointly by ERA and the sector.

Testing procedures

Fixing a common, open testing procedure is a priority. To that end, manufacturers, IM and RU should contribute to setting up and updating a common database of test scenarios based on real lines and situations. This should enhance reliability of laboratory tests in order to reduce costs of on-site testing and ensure that a locomotive authorised in one country can be authorised in another without further ERTMS-related checks.

3. Coordination

Investment in implementation

Full ERTMS interoperability is only possible at the lowest cost when implemented jointly in all countries through which a specific corridor runs. Better coordination between management committees will help to find solutions for European Train Control System implementation on trans-border lines and simplify cross-border operations. This concerns issues such as traction power change or switching control command and signalling systems.

ERTMS and legacy systems during transition

Combinations of ERTMS and national legacy systems raise specific coordination issues which must be tested separately. On one hand, this favours fast migration to ERTMS in main corridors, their alternative lines and stretches leading to terminals. On the other, locomotives operating on national networks will still need at least one national system in addition to ERTMS for periods that may vary greatly between Member States. Cost-effective ways of managing this – including related safety requirements – are essential and EU-level agreement on general principles and engineering rules would ease the process. Phasing out national Class B railway systems is seen as a means to achieve a quick reduction in the quantity of Class B onboard equipment.

Costs and benefits of maintaining these systems should be better assessed, provided they complement the ERTMS network and do not divert investment away from Member State ERTMS commitments.

CER gives qualified approval to lowering track access charge proposals for ETCS-equipped trains

By Libor Lochman, CER Deputy Executive Director

The Community of European Railway and Infrastructure companies (CER) supports in principle the Commission proposal suggesting that trains equipped with the European Train Control System (ETCS) (version 2.3.0d or higher) should benefit from temporary reductions in infrastructure access charges. Certain conditions should however be attached to this.

Reductions should not be linked to the extent of trackside ERTMS deployment as this would mean that the incentive principle would not fully apply. In addition, the method of calculating track access discounts must be as simple as possible and must not impose any unnecessary administration. The principles could form the basis of a future model for noise-based track access charges so as to avoid administrative duplication.

Finally, the reduction of track access charges for ETCS-equipped trains must not lead to an overall increase in infrastructure charges. Rather the discount should be considered as a bonus, financed from state budgets.

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ERTMS diary

- 29 November 2010: Brussels
  ERTMS MoU Steering Committee
- 6 December 2010: Brussels
  ERTMS Corridor Group
- 14-15 December 2010: Brussels Committee on the Interoperability and Safety of the European Railway System (RISC)

Please send us your dates!

For further information on ERTMS, see: **http://ec.europa.eu/transport/rail/interoperability/ertms/ertms_en.htm**

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Published by: Directorate-General for Mobility and Transport
European Commission – BE-1049 Brussels

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