

Position Paper

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Boosting ERTMS deployment

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ERTMS system perspective

- The European Rail Traffic Management System (ERTMS) is one of the few large scale European digital infrastructures and as such shall be properly and fast deployed in all Europe.
- CER believes that **ERTMS deployment shall be boosted and to this purpose a future strong and centralised EU Level ERTMS governance is needed**, governing funding, National Implementation Plans (NIP) planning, resourcing, market uptake, migration and transition. The ERTMS Coordinator with all the stakeholders shall devise and promote such governance.
- CER foremost sees the introduction of **ERTMS** as a CCS core technical system hub, **bringing the railway system in general as well as the Control Command and Signalling (CCS) system in particular to a next level.**
- CER believes that close **cooperation between EU and Member States is paramount**, to set up and manage the centralised EU Level ERTMS governance.
- CER considers an accelerated ERTMS rollout as vital for the **modal shift** envisaged in the Green Deal, under the precondition of having suitable funding and financing options in place.
- CER strongly believes in the need for an **industrialisation of ERTMS** to tackle the existing bottlenecks with ERTMS deployment.
- **Synchronised and harmonised ERTMS deployment of tracksides and on-boards is vital.**

Topics for commitment

- a) Facilitate a synchronised and harmonised ERTMS deployment both of track-side and on-board
- b) Key requirement for national and European financial schemes to incentivise trackside and on-board deployment: rising the limit of 50% eligible costs currently contained in the Union Guidelines for State Aid to RUs up to 100%;
- c) Definition of common operational rules to be applied on lines equipped with ERTMS stand alone. This target should be achieved within a short/medium time horizon.
- d) Define principles for development, procurement and liabilities
- e) Strengthen the European Union Agency for Railways (ERA) as ERTMS System Authority

1. ERTMS deployment strategy

- The cost-benefit analyses and experiences carried out so far have highlighted that the most effective strategy to fully exploit the potential offered by ERTMS applications in terms of safety, capacity and maintainability, is to implement ERTMS envisaging at the same time the decommissioning of the national class B system. For the migration period the class B systems shall remain on-board.
- In order to accelerate the overall deployment of ERTMS, CER calls for a parallel and harmonised ERTMS trackside and on-board deployment to be coordinated between IMs and RUs/vehicle owners. The benefits shall be shared with RUs/vehicle owners in terms of funding and financing mechanisms. Adequate and smart support measures for RUs and IMs must be put in place at national and EU level to ensure a smooth and affordable on-board deployment without threatening the financial viability of RUs.
- Deployment trackside and on-board (including the Future Railway Mobile Communication System (FRMCS)) must ensure both innovation and a sustainable migration process, for instance through backward and forward compatibility to the extent that is possible. The forced update of the system introduced by the ERTMS error correction process shall not endanger the business of the actors. Only if safety or technical compatibility is endangered in certain areas of use, the forced updated of the system should be required.
- CER believes European legislation (including TSI CCS chapter 7) should simplify authorisation processes without prejudice to safety and interoperability. Re-authorisation in conformity to a type or generic system already certified and authorised for serial vehicles or for a trackside subsystem (e.g. duplication or extension of a authorised trackside or on-board subsystem without adding new functions) must not lead to any unnecessary "standstill time".

2. Funding and Financing

- In compliance with the European Parliament position on “Railway safety and signalling: Assessing the state of play of the European Rail Traffic Management System (ERTMS) deployment”, 20 May 2021-Bilbao Barandica, CER believes that funding for accelerated ERTMS rollout is so far insufficient.
- The European Court of Auditors (ECA) estimates that the capital investment for track side ERTMS deployment on the entire TEN-T core network amounts at €80 billion, including digital interlockings, and the costs for onboard retrofitting of the entire fleet are quantified in additional €11 billion. EU funding can cover only a limited share of these overall costs. Between 2007 and 2020, €3.9 billion were allocated from the EU budget to ERTMS roll-out projects – this is less than 5% of the total deployment costs for the overall network. The ECA mentioned the need to target cross-border sections and core network corridors, and onboard units for international traffic.
- Cost for signalling renewal (e.g. the upgrade of the interlocking ERTMS oriented and introduction of game changers) necessary to facilitate the introduction of ERTMS trackside and class B system decommissioning, should be considered as eligible costs for European funding and financing instruments, too.
- CER believes that it is necessary to improve the financial instruments in place to incentivise large-scale investments on ERTMS both trackside and on-board. In particular, CER calls for a revision of the state aid guidelines applicable to railways in order to support the sector in displaying its full potential in achieving the ambitious Green Deal targets.

Such a revision should focus on:

- ✓ increasing the limit of 50% (unless notified) of the eligible costs setting a common threshold (up to 100%) at European level via the intervention of the competent EU decision making bodies;
- ✓ providing more flexibility in terms of implementation time frame that is currently limited to 5 years.
- In relation to CEF grants, as underlined by the European Parliament, CER wishes to point out that EU co-financing rates for ERTMS are insufficient. They should be increased with a co-financing factor up to 100%, in particular when such projects are embedded in ambitious large-scale accelerated ERTMS deployment plans, in order to incentivise ambitious ERTMS on-board deployment strategies in the Member States.
- In addition, method of calculating EU contribution, based on a flat rate per kilometre, suitable for linear sections but less appropriate for urban nodes which require many trackside objects and complex ERTMS settings over a short distance, should be refined.
- For on-board units, the current lump sum approach is not efficient as the unit costs defined are considerably below the actual costs incurred for European Train Control System (ETCS) equipment. A better understanding of ETCS cost drivers is needed.
- Finally, a new governance is needed. The European Commission, Member States, Infrastructure Managers and Railway Undertakings need to cooperate more closely in order to:

- ✓ optimise the use of available national and European funding sources (such as CEF -including Blending Facility-, the Cohesion Funds, InvestEU as well as the Recovery and Resilience Facility)
- ✓ ensure financial and political commitment to further improve the attractiveness of investing in the ERTMS, and to guarantee legal certainty for private investors.

If the decommissioning of class B in parallel to ERTMS deployment leads to extra costs, it shall be funded accordingly.

3. ERTMS operational rules harmonisation

The work done on ERTMS operational rules harmonisation should be achieved within a short/medium time horizon for ETCS-alone lines.

- CER considers that besides having standardised and interoperable products, a harmonisation of ERTMS operational rules is essential in order to fulfil the potential of ERTMS contributing to the modal shift required under the Green Deal.
- Harmonised common operational rules are to be applied on lines equipped with ERTMS only. This target should be a pivotal part of the upcoming System Pillar.
- CER recognises that not all rules can be harmonised, especially when having transitions to class B tracksides with their system related rules.

4. Development, procurement and liabilities

- CER believes that future ERTMS onboard technology should have maintainability and upgradeability by design, supported by an open plug-and-play architecture.
- Existing vehicle retrofit with modern ERTMS onboard technology shall be supported by an open interface architecture, enabling interfacing with several other technologies on the train, without creating vendor-lock-in when needing to upgrade/retrofit. CER therefore strongly supports the OCORA developments.
- CER believes that ERTMS (sub-)systems and components should be procured in a mature marketplace, having upgradability and maintainability according to ERA managed specification management and reliability requirements at its core.
- CER believes that ERTMS project risks should be far more reduced than today and liabilities shall be far better known prior to project execution, foremost by eliminating track-vehicle system integration risks.
- Further industrialisation of the (accelerated) ERTMS rollout is needed, with standardised and compatible products for trackside and onboard, reducing present day integration risks. An important role here is to be played by infrastructure managers: maximal reduction of having specific solutions (as resulting from National Technical Rules) and the supply industry: creating industrialised production concepts, which are easily upgradable, updatable, maintainable and allow for multi-vendor products interfacing with their ETCS onboards.

- Lessons learned from earlier ERTMS trackside and onboard deployments should be taken into account. Market/governance failures as experienced today should be avoided. CER sees this as a lesson for the future System Pillar, as well as for the exploitation of the potentials in the Innovation Pillar.

5. European Union Agency for Railways: ERTMS System Authority

- CER believes that the European institutions shall fully support the European Union Agency for Railways (ERA) in its role as ERTMS system authority and continuously ensure the necessary budget for this Union Agency, especially when accelerating the European ERTMS deployment and pushing for a more harmonised implementation.
- CER also believes that ERA needs to substantially increase its capacity on ERTMS Change Management to support a far more agile incorporation of consolidated sector needs on ERTMS error corrections and enhancements of the specifications and related regulations without prejudice to our competitiveness and protecting current investment.
- CER also believes that ERA should have a more active role as mandated referee in those discussions between actors where interoperability is endangered and disproportional cost effects may arise.

About CER

The Community of European Railway and Infrastructure Companies (CER) brings together railway undertakings, their national associations as well as infrastructure managers and vehicle leasing companies. The membership is made up of long-established bodies, new entrants and both private and public enterprises, representing 73% of the rail network length, 76% of the rail freight business and about 92% of rail passenger operations in EU, EFTA and EU accession countries. CER represents the interests of its members towards EU policy makers and transport stakeholders, advocating rail as the backbone of a competitive and sustainable transport system in Europe. For more information, visit www.cer.be or follow us on Twitter [@CER_railways](https://twitter.com/CER_railways) or [LinkedIn](https://www.linkedin.com/company/cer).

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