

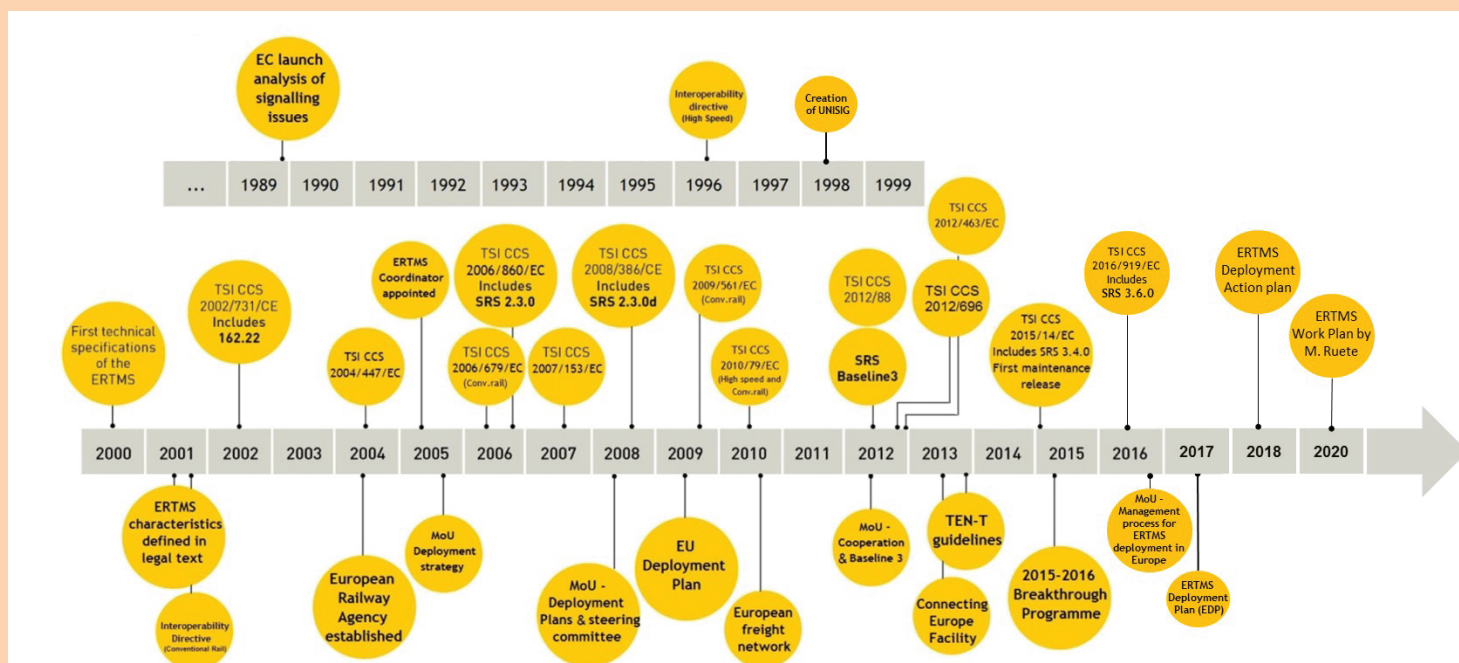
## ERTMS HISTORY

Today, trains are equipped with up to seven different train control systems. Each is extremely costly and takes up space on-board. A train crossing from one European country to another must switch the operating standards as it crosses the border. All this adds to travel time and operational and maintenance costs.

Together with other technical differences – for instance in terms of rail gauge, electricity voltage, rolling stock design, etc. – the existence of more than 20 train control systems in Europe has always been a major obstacle to the development of international rail transport. For this reason, the development of a common European system started to be discussed as early as the late 1980s.

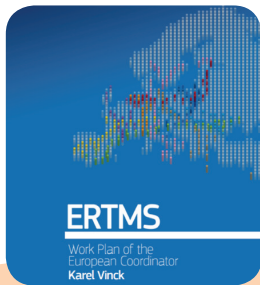
At the beginning of the 4th Framework Programme, in 1995, the EC defined a global strategy for the further development of the European Railway Traffic Management System (ERTMS) with the aim to prepare its future implementation on the European Rail Network. The global strategy described in the « Master Plan of Activities » included the development and validation phase. The objective of the validation phase was to perform full scale tests on sites located in different countries (France, Germany and Italy).

In the summer of 1998, UNISIG, comprising the European Signalling companies was formed to finalise the specifications. The Class P SRS was delivered on 23rd April 1999. With the final signature on ERTMS specification, Class 1, on 25th April 2000, ERTMS has finally arrived providing substantially higher performance levels for the railways.



ERTMS Timeline. Source: DG MOVE

The specifications were subsequently reviewed to include additional functionalities and better meet the needs from the railway companies and infrastructure managers. The specifications currently in force are contained in the SRS 2.3.0d, which was adopted by the European Commission in April 2008. To ensure that ERTMS is constantly adapted to the railway's needs, technical specifications are maintained under the lead of the European Union Agency for Railways in cooperation with the signalling industry and railway stakeholders.



In parallel to this specification work, a joint effort from the European Union and the member states to finance ERTMS/ETCS has been implemented. Four successive Memorandums of Understanding were signed in 2005, 2008, 2012 and 2016 by the European Commission and the railway stakeholders to further deploy ERTMS on Europe's rail network. Six 'priority' corridors were identified for the development of ERTMS, whilst specially crafted financial incentives were designed to support both infrastructure and onboard installation. In 2005 Karel Vinck has been nominated as European coordinator to work jointly with the rail sector on further deploying ERTMS along the EU's rail network. In 2014 the coordinator came up with a Breakthrough Program with the aim to boost the implementation process.

In July 2009, the first adoption of the European ERTMS Deployment plan marks a new milestone for ERTMS. For the first time, the retrofitting of ERTMS on a number of listed lines (the six ERTMS corridors and additional freight lines) becomes mandatory, with deadlines ranging from 2015 to 2020 depending on the lines section.

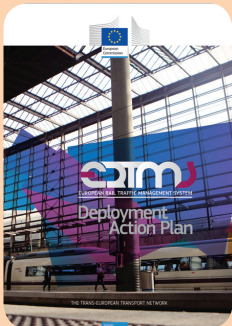
In January 2017 the European Commission published the latest version of the ERTMS European Deployment Plan (EDP) – which sets deadlines for the progressive deployment of ERTMS along the main European rail routes, under the coordination of European ERTMS Coordinator Karel Vinck. The ERTMS EDP sets new targets until 2023 by which about 50% of the Core Network Corridors shall be equipped. In 2023, the ERTMS EDP will be updated again setting out the precise dates for the remaining part of the Corridors between 2024 and 2030. This new deployment plan should facilitate the planning of investments of both railway undertakings and infrastructure managers.

In 2017, the release of the ERTMS Baseline 3 release 2 set of specifications, marked a major step forward for the ERTMS European Deployment Plan (EDP) as this release represents a mature and stable version of the system, able to solve any interoperability issues.

In February 2017, the CEOs of Alstom, Ansaldo STS, AZD Praha, Bombardier, CAF, MerMec, Siemens and Thales, as members of UNISIG, renewed their commitment for the development of ERTMS by signing individual Letters of Intent in the presence of DG Move Director-General Henrik Hololei, ERTMS Co-ordinator Karel Vinck and EU Agency for Railways Executive Director Josef Doppelbauer. This commitment aims to secure long-term stability for the ERTMS specifications following the adoption of Baseline 3 Release 2 and promote a 'swift and coordinated' deployment across Europe.



On their side, Member States were also asked to draw up National Implementation Plans and to submit them to the European Commission before 5 July 2017. These National Implementation Plans shall be updated at least every 5 years.

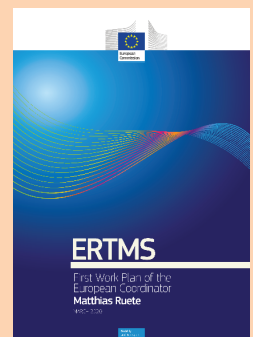


At the Single European Rail Area (SERA) Convention in Brussels on 20 June 2017, EU Transport Commissioner Violeta Bulc presented a first version of the ERTMS Deployment Action Plan which included the necessary steps to address identified barriers to ERTMS implementation and to achieve ERTMS interoperability.

The final version of the Action Plan was adopted during the Control Command and Railway Communication Conference (CCRCC) organised by ERA in Valenciennes on 15-16 November 2017. The follow-up of the ERTMS Deployment Action Plan is performed by the ERTMS Stakeholder Platform Coordination Subgroup including representatives from UNIFE, UNISIG, DG Move, ERA, EIM, CER, ERFA and EPPTOLA.

In June 2020 Matthias Ruete, the new European ERTMS Coordinator, published his first ERTMS Work Plan. In this exhaustive document, Mr Ruete evaluates the current ERTMS deployment status by explaining its positive business case and outlining existing funding possibilities. He also envisaged the main next steps in ERTMS' evolution. The Work Plan highlights that we are at a critical point for ERTMS deployment in Europe and abroad. Therefore, providing a reliable and stable European funding framework for ERTMS deployment will be essential in the coming years.

In parallel to these European developments, ERTMS has today established itself as a worldwide standard. Countries as diverse as China, Taiwan, South Korea, India, Algeria, Libya, Saudi Arabia, Mexico, New Zealand or Australia have launched major ERTMS investment programs. ERTMS is expected to become a unique signalling system for railways worldwide.



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