Deployment of the European rail signalling system ERTMS/ETCS

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PURPOSE: To present a strategy on the deployment of a European rail signalling system ERTMS/ETCS

CONTENT: This Communication examines how to improve the harmonisation of Europe's rail signalling programme. It focuses, in particular, on the European Rail Traffic Management System (ERTMS), which the Commission compares to other large EU transport ambitions such as Galileo. ERTMS forms an essential component of priority Community rail projects garnering 20% of investment from the trans-European network. Rolling stock equipped with ERTMS could reach EUR 5 billion by 2016.

Safety concerns constitute one of the major forces for introducing harmonised signalling methods. Also at stake is the EU's economic competitiveness and the need to create an inter-operable rail system allowing for the smooth transport of rail passengers and goods across the EU. Before this ambition can be fully realised a number of obstacles need to be over come. Currently, for example, there are more than twenty different signalling systems coexisting in Europe. Locomotives which cross EU borders have to be equipped with a variety of on-board systems able to process the information transmitted by different track systems. Take, for instance, the Thalys Paris-Brussels-Cologne and Amsterdam runs. The trains operating this route are equipped with seven types of signalling systems with a screen for each signalling system in the driver's cab. This alone pushes up the cost of each train by 60%.

The ERTMS, which is a direct result of EU RT&D funding, offers a major advance in improving the inter-operability and safety of the EU's networks. Specifically speaking, the ERTMS is made up of two components. The first is GSM-R, which is a GSM standard using various frequencies unique to rail systems - although it does have other functions. It acts as a radio system used for exchanging voice and data information between the track and the train. The second component is ETCS or the European Train Control System, which transmits permitted speed information to the train divers, as well as constantly monitoring the driver's compliance with the speed limits. Currently, Member States are busy replacing obsolete radio signalling with the GSM-R systems. Fearing that this may lead to yet another patch-work layer of diverse provisions, the Commission is urging a harmonised Community approach to the implementation of both the GSM-R and ETCS. Not only would harmonised standards bolster safety issues they would also strengthen the EU's economy in line with the goals set out by the Lisbon agenda. The Communication points out that, although some legislation already exists to apply modern, harmonised technology, the speed with which current legislation will be enacted is too slow. At current rates much of the EU's rail infrastructure will remain outdated by 2025. The essence, according to the Commission, is to speed up the overall application of ETCS for the sake of passenger safety and for the sake of a competitive European economy. Moreover, with ETCS, it will be possible to provide secondary lines with a signalling system offering a standard of safety at least equivalent to that of the systems currently used on high-speed lines.

In light of the number of obvious advantages associated with GSM-R and ETCS, the Commission is urging a rapid co-ordinated introduction of the new technologies. In order to do so, the Commission has prepared a strategy outlined in a technical annex to the Communication whereby the number of lines equipped with ETCS would be so high that the rest of the EU's rail infrastructure would have to be equipped with it as well. This strategy would allow for a new European standard that would permit the rail sector to gradually overcome technical barriers, which do not affect its competitors. In concrete terms, the annex show how, according to initial estimates, investments amounting to approximately EUR 5 billion will make it possible to achieve this critical mass by 2016. The Commission will support about 50% of the

investments, including those relating to the adaptation of rolling stock. A substantial financial effort will be put into the promotion of inter-operability and the deployment of ETCS in particular.

To conclude, the Commission considers that the rapid and co-ordinated deployment of ERTMS will have a snowball effect and the use of ERTMS will become the rule rather than the exception on the trans-European network. The Commission invites the European Parliament and the Council to support the guidelines contained in this Communication.