

Letter from: Jan Hoogmartens, Deputy Permanent Representative of Belgium to the European Union  
Date: 5 July 2017  
To: Violeta Bulc, Commissioner for Transport;  
copies to: K. Fitch, DG MOVE; A. Cordeiro Moura, Bellot Cabinet; P. Geens, Federal Public  
Service for Mobility and Transport  
Subject: Notification of national ETCS implementation plan (EU 2016/919).  
Ref.: 2070703/01257

Please find enclosed a letter from François Bellot, Minister for Mobility, regarding the above matter.

*[complimentary close]*

Letter from: François Bellot, Minister for Mobility, Federal Public Service for Mobility and Transport, Directorate-General for Sustainable Mobility and Rail Policy, Directorate for Rail Policy, Department of Safety, Security and the Environment  
Date: 3 July 2017  
To: Violeta Bulc, Commissioner for Transport  
Subject: Notification of national ETCS implementation plan (EU 2016/919)  
Ref.: 4756/PG/B/EC

In accordance with point 7.4.4 of the Annex to Commission Regulation (EU) 2016/919 of 27 May 2016 on the technical specifications for interoperability relating to the 'control-command and signalling' subsystems of the rail system in the European Union, please find enclosed the national implementation plan for the deployment of ETCS in Belgium.

I would like to point out that Belgium has a long-standing commitment to implementing ETCS across its entire network and is one of the pioneers in the EU with regard to ETCS deployment on a conventional network. Belgium will continue to make every effort to comply with the European deployment plan.

*[complimentary close]*

# National ETCS implementation plan

in accordance with CCS TSI (EU 2016/919) point 7.4.4 of Annex

## 1 Background

### 1.1 Current safety systems

Table 1 presents an overview of the available data for the various systems currently installed on the Belgian rail network.

#### 1.1.1 Memor-krokodil

Class B system installed on the conventional network with very limited functionality.

#### 1.1.2 TBL1

Class B system installed on the conventional network between Halle and Bruxelles-Midi.

#### 1.1.3 TBL2

Class B system installed on high-speed line 2 between Leuven and Ans.

#### 1.1.4 TVM430

Class B system installed on high-speed line 1 between Halle and the French border.

#### 1.1.5 TBL1+

Class B off-TEN system based on ETCS packet 44. This system has been installed at the high-risk junctions on the conventional network since late 2015.

#### 1.1.6 ETCS L1 full supervision SRS v2.3.0d

Class A system installed on the line between Antwerp and the Luxembourg border; the entirety of Corridor C has been equipped.

#### 1.1.7 ETCS L2 SRS V2.3.0c

Class A system installed on high-speed lines 3 and 4. The system was configured to allow trains equipped with SRS v2.3.0d to operate.

Table 1 overview

Currently installed systems (2017)	Memor	TBL1+	TBL1	TBL2	ETCS L1 FS (V2.3.0d)	ETCS L2 FS (V2.3.0C)	TVM430
Warning at double Yellow (next signal closed)	Yes	Yes(TBL1+ NG: speed restriction)	Yes	No (defined by MA)	No (defined by MA)	No (defined by MA)	No (defined by MA)
Force stop at closed signal	No	Yes (when passed)	Yes (when passed)	Yes (before end of MA)	Yes (before)	Yes (before end of MA)	Yes (before end of MA)
Max V <sub>reference</sub>	No	No	No	Yes	Yes	Yes	Yes

Max V <sub>approach</sub>	No	Yes(40 km/h @300m)	No	yes	Yes	Yes	Yes
Control points	Signals	Signals + balise 300m	Signals	Cont. Control of speed and MA	Signals + balise 300m, cont. speed	Cont. Control of speed and MA	Cont. Control of speed and MA
Lateral signals?	Yes	Yes	Yes	No	Optional	No	No
Cab signaling	No	No	No	Yes	Yes	Yes	Yes
Class?	B	B outside TEN-T	B	B	A	A	B
ETCS reference version	n/a	n/a	n/a	n/a	2.3.0D	2.3.0c	n/a
Economic lifespan	ending	10+years	ending	ending	25-40 years	10+years	7 to 12 years left
Reliability (mean time between failures, least reliable component)	n/a	26y +	n/a	n/a	26y+	26y +	n/a
Capacity (follow up time between trains)	3 minutes	3 minutes	3 minutes	3 minutes	3 minutes	3 minutes	3 minutes

## 1.2 Overall vision

Following the dramatic accident in Buizingen on 15 February 2010, the House of Representatives instructed Infrabel and the SNCB to draw up a master plan with the aim of deploying ETCS as soon as possible across the entire Belgian rail network. The plan was adopted by the House on 19 October 2011 and included in the Belgian Government's 2013-2025 long-term investment plan. The date by which the entire network is to be equipped with ETCS was fixed in the plan for 31 December 2022. The SNCB's entire passenger service fleet is to be equipped by 31 December 2023.

This migration strategy will make Belgium one of the first Member States to equip its entire conventional network with ETCS. This pioneering role has also given Belgium extensive experience with the technical challenges of deploying ETCS. The changing specifications, the time taken to finalise the schedule, and the infeasibility for industry of proposing technical solutions within the time frames set mean that the timeline is still subject to change.

The national implementation plan therefore contains only the planned deadlines by which the various lines are to be equipped and the impact of this on the interoperability of international rail traffic. The exact deployment of the different technologies on different parts of the network still remains to be decided in collaboration with the various stakeholders (infrastructure manager, railway undertakings, national safety authority and the Belgian Government).

This national implementation plan will therefore also be reviewed on a regular basis and the European Commission will be notified of any amendments.

## 2 Migration strategy

### 2.1 Infrastructure

#### 2.1.1 Technical

In order to implement ETCS as quickly as possible with as little disruption to rail traffic as possible, Belgium has opted to have overlap on the infrastructure during the migration to the new system. The ETCS equipment will therefore be brought into service without the class B systems being removed or taken out of service. There are, however, some exceptions.

The memor-krokodil class B system was taken out of service on 12 December 2016 on the lines that have been equipped or are being equipped with ETCS L1 full supervision (SRS v2.3.0d) and on which the ETCS packet 44 system TBL1+ has been implemented.

TBL2 will be taken out of service when ETCS L1 full supervision (SRS V2.3.0d) enters into service on high-speed line 2 Leuven-Liège.

#### 2.1.2 Financial

The infrastructure costs are paid on the basis of an investment grant to the infrastructure manager, supplemented with EU subsidies where these can speed up the implementation process.

### 2.2 Rolling stock

#### 2.2.1 Technical

The technical specifications for the rolling stock regarding, among other things, the safety systems that must be installed on board are laid down in the Royal Decree of 1 July 2014, amended on 18 December 2015, adopting the applicable requirements for rolling stock for use on the railways. In view of the migration strategy applied to the infrastructure, various pieces of on-board equipment are required in order to operate across the entire network. However, in order to operate on the conventional network it is sufficient to equip the rolling stock with ETCS and/or TBL1+ during the migration period.

#### 2.2.2 Financial

The migration of the rolling stock that is only used for public passenger services is financed through an investment grant to the operator. This grant is supplemented with EU aid within the framework of the CEF.

The Belgian Government does not provide funding for costs incurred by commercial or liberalised rail transport services. An active support policy is also being pursued in order to help the operators with their applications for EU subsidies within the framework of the CEF.

### 2.3 Open market conditions class B safety systems

The specifications of the class B systems on the conventional network are available on request from the infrastructure manager.

T3L2 will be taken out of service at the end of 2017.

The specifications for TVM430 are managed by the SNCF. France is therefore also responsible for ensuring the open market conditions.

### 3 Timeline

The timeline is set out in the ETCS master plan presented to the Belgian House of Representatives in 2011. In view of the short time frame envisaged for such a complex deployment, the timeline for the entry into service of some sections and lines has been amended in places. These dates are continually being determined in consultation between the railway undertakings and the infrastructure manager.

The timeline complies with the European Deployment Plan from the ERTMS Coordinator.

The overall objective is still to have equipped the entire conventional network with ETCS by 2022. The high-speed network will also be equipped by that date, with the possible exception of HSL 1, where the removal from service of TVM430 will coincide with the entry into service of ETCS, and coordination with the French infrastructure manager will therefore be necessary. HSL 1 will be equipped with ETCS by 2030 at the latest.

#### 3.1 Deployment of ETCS infrastructure

The deployment timeline is set out in Annex 1. The dates listed are the deadlines for entry into service. Where possible, ETCS will be put into service sooner on these lines in consultation with the railway undertakings.

Three technological systems will be deployed: ETCS L1 limited supervision (SRS 3.6.0, functions limited to SRS 3.4.0), ETCS L1 full supervision (SRS 2.3.0d) and ETCS L2 (SRS 3.4.0, but trackside version 1.0). An upgrade from ETCS L2 to a complete baseline 3 system, including functions of SRS 3.4.0, trackside version 1.1 or higher, is planned from 2025 on the basis of a timeline to be proposed by the infrastructure manager in consultation with the railway undertakings. The aim of the first upgrade will primarily be to enable communication via GSM-R with GPRS.

#### 3.2 Removal from service of class B systems

##### 3.2.1 Memor-krokodil

From 12 December 2016, memor-krokodil will be removed from service on the lines equipped with ETCS L1 and the packet 44 system TBL1+. Following publication of the new Royal Decree on the requirements for rolling stock, this will also be possible for lines equipped with ETCS L2 and ETCS L1 LS from late 2017.

##### 3.2.2 TBL1

TBL1 is currently only installed on the connecting line between high-speed line 1 (Halle-Lille) and Bruxelles-Midi station. It will be removed from service when ETCS enters into service on the section between Halle and Bruxelles-Midi.

##### 3.2.3 TBL2

TBL2 is only installed on high-speed line 2 (Leuven-Liège) and will be removed from service at the end of 2017 when ETCS enters into service on the line.

##### 3.2.4 TVM430

TVM430 is only installed on high-speed line 1 (Halle-Lille) and will be removed from service at the latest in 2029 in consultation with the railway undertakings and SNCF Réseau. The system will be replaced by ETCS L2.

### 3.2.5 TBL1+

TBL1+ is an ETCS packet 44 system and is only recognised as a class B system on off-TEN lines. Its removal from service will begin at the earliest in 2025 and at the latest in 2032 in consultation between the railway undertakings and the infrastructure manager.

### 3.2.6 ETCS equipping obligation

The obligation to install ETCS on-board new vehicles will also apply to vehicles only intended for domestic services or short cross-border services as defined in point 7.4.3, given that the entire network will be equipped with ETCS by 2022.

In consultation with the railway undertakings, a date will be set from which the network will only be accessible to vehicles equipped with ETCS. From that date none of the categories of derogation provided for in the TSI will be applicable. The date will be at the earliest at the end of 2025 and will be no later than 2032.

## 3.3 Access only for vehicles equipped with ETCS

### 3.3.1 High-speed lines

The border crossings with Germany and the Netherlands are already equipped with ETCS. The complete journey from these points to Bruxelles-Midi will be possible with ETCS from 2022, when the north-south connection in Brussels is equipped.

It will only be possible to travel between Bruxelles-Midi and France using solely ETCS once TVM430 has been replaced by ETCS L2, which is envisaged for the period 2025-2029.

### 3.3.2 Conventional network

For corridor C, RFC NSMED, it is already possible to travel using ETCS all the way from the Luxembourg-French border to Antwerp. The timeline for the other corridors is set out in Annex 1 and will comply with the EDP.

# NATIONAL IMPLEMENTATION PLAN ERTMS-2017 TIMING

*[Please see Dutch original for map]*