

Moving Europe towards a sustainable and safe railway system
without frontiers.

Application Guide – Examples of transition and migration for notification of ATO, FRMCS and ETCS system version implementations

1) CCS TSI – Appendix B

ATO, FRMCS and ETCS system version implementations shall be agreed as part of the NIP-process and if agreed on the implementation, the notifications shall be done within RINF and published in the network statements. These trackside implementations will lead to new vehicle implementation requirements as defined in Appendix B of the CCS TSI.

The cases of

- Design phase has started **after the notification**: the initial assessment framework shall be aligned with the notifications from the IMs **directly applicable** at the beginning of the design phase.
- Design phase has started **before the notification**: the certification framework shall be amended with the notifications from the IMs that came into force during the design phase. The standard transition regime is that notifications shall be part of the certification framework if the EC type or design examination **certificate is not issued within 5 years after** the notification date.

These cases should be combined with relation of the design phase starting date and the TSI entry into force date, which it is assumed 01st January 2023 for the examples linked to ATO and ETCS system version 2.2 and 3.0 and 01st January 2025 for the FRMCS on-board specifications v2.0.0. The general rule is that early notifications are prolonged to have at least 2 years for the development of products. So, if the notification takes place within 2 years after entry into force of the new specifications, the initial assessment frameworks shall be considered as if the notification takes place as within 2 years after entry into force of these new specifications and the design phases that started before the notification shall use the transition clause as if the design phase started before the TSI set into force.

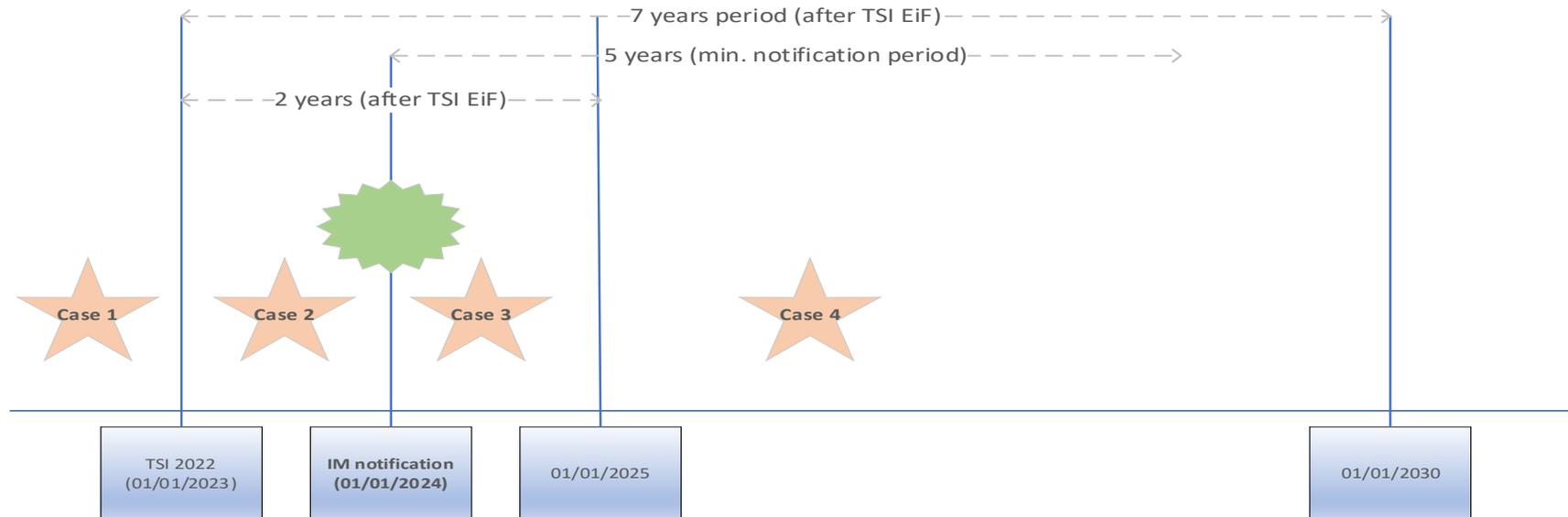
Example	Explanation on TSI change	Transition regime			
		Design phase started after TSI set into force	Design phase started before TSI set into force	Production phase	Vehicle in operation
1	Notification of ETCS system version 2.1 included in Network Statement	<p>Design phase started after notification from IM and notification is done after 01st January 2023:</p> <p>The ETCS system version 2.1 is directly applicable.</p>	<p>The ETCS system version 2.1 is applicable if the design phase is not ended within the latest date between following dates:</p> <ul style="list-style-type: none"> - 01st January 2028; - 5 years after the notification date from the IM; 	Not applicable	Not applicable
	<p>Design phase started before notification from IM or notification is done before 01st January 2023:</p> <p>The ETCS system version 2.1 is applicable if the design phase is not ended within the latest date between following dates:</p> <ul style="list-style-type: none"> - 01st January 2028; - 5 years after the notification date from the IM; 				

2	Notification of ETCS system version 2.2 included in Network Statement	<p>Design phase started after notification from IM and notification is done after 01st January 2025:</p> <p>The ETCS system version 2.2 is directly applicable.</p>	<p>The ETCS system version 2.2 is applicable if the design phase is not ended within the latest date between following dates:</p> <ul style="list-style-type: none"> - 01st January 2030; - 5 years after the notification date from the IM; 	Not applicable	Not applicable
		<p>Design phase started before notification from IM or notification is done before 01st January 2025:</p> <p>The ETCS system version 2.2 is applicable if the design phase is not ended within the latest date between following dates:</p> <ul style="list-style-type: none"> - 01st January 2030; - 5 years after the notification date from the IM; 			
2	Notification of ATO implementation in Network Statement	<p>Design phase started after notification from IM and notification is done after 01st January 2025:</p> <p>ATO on-board is directly applicable.</p>	<p>ATO on-board implementation is applicable if the design phase is not ended within the latest date between following dates:</p> <ul style="list-style-type: none"> - 01st January 2030; - 5 years after the notification date from the IM; 	Not applicable	Not applicable
		<p>Design phase started before notification from IM or notification is done before 01st January 2025:</p>			

		<p>ATO On-board is applicable if the design phase is not ended within the latest date between following dates:</p> <ul style="list-style-type: none"> - 01st January 2030; - 5 years after the notification date from the IM; 			
3	Notification of ETCS system version 3.0 included in Network Statement	<p>Design phase started after notification from IM and notification is done after 01st January 2025:</p> <p>The ETCS system version 3.0 is directly applicable.</p> <hr/> <p>Design phase started before notification from IM or notification is done before 01st January 2025:</p> <p>The ETCS system version 3.0 is applicable if the design phase is not ended within the latest date between following dates:</p> <ul style="list-style-type: none"> - 01st January 2030; - 5 years after the notification date from the IM; 	<p>The ETCS system version 3.0 is applicable if the design phase is not ended within the latest date between following dates:</p> <ul style="list-style-type: none"> - 01st January 2030; - 5 years after the notification date from the IM; 	<p>Note: the notified ETCS system version 3.0 is mandatory when required for compatibility with the ETCS trackside implementation (see clause 7.2.6.1 point (5)).</p>	<p>Note: the notified ETCS system version 3.0 is mandatory when required for compatibility with the ETCS trackside implementation (see clause 7.2.6.1 point (5)).</p>

4	Notification of FRMCS implementation in Network Statement	<p>Design phase started after notification from IM and notification is done after 2 years of the publication of the FRMCS on-board specifications v2.0.0:</p> <p>FRMCS on-board implementation is directly applicable.</p>	<p>FRMCS on-board is applicable if the design phase is not ended within the latest date between following dates:</p> <ul style="list-style-type: none"> - 7 years after publication of the FRMCS on-board specifications v2.0.0; - 5 years after the notification date from the IM; 	<p>Note: the FRMCS on-board implementation is mandatory when required for compatibility with FRMCS only trackside implementation</p>	<p>Note: the FRMCS on-board implementation is mandatory when required for compatibility with FRMCS only trackside implementation</p>
		<p>Design phase started before notification from IM or notification is done before 2 years after publication of the FRMCS on-board specifications v2.0.0:</p> <p>FRMCS On-board implementation is applicable if the design phase is not ended within the latest date between following dates:</p> <ul style="list-style-type: none"> - 7 years after publication of the FRMCS on-board specifications v2.0.0; - 5 years after the notification date from the IM; 			

Example of vehicle authorisation cases if notification takes place within 2 years after entry into force of newly developed function, e.g. new ETCS system version 2.2 introduced in TSI 2022 (TSI enters into force from 01st January 2023) and notified by IM in 2024.



- Case 1: vehicle design phase started before 2023 (second column in Appendix B 'design phase started before entry into force of TSI')
=> applicable if the EC type or design examination certificate is issued after 2030;
- Case 2: design phase starts after 01st January 2023 (first column in Appendix B 'design phase started after entry into force of TSI') and before 01st January 2024
=> applicable if the EC type or design examination certificate is issued after 2030;
- Case 3: design phase starts after 01st January 2024 and before 01st January 2025
=> applicable if the EC type or design examination certificate is issued after 2030;
- Case 4: design phase starts after 01st January 2025
=> directly applicable

2) Example of transition regimes

Example 1: GPRS and associated ETCS system version 2.1 (compatible change)

Assumption: TSI is entering into force on 01st January 2023

Example 1.1: The Network Statement 2021 (based on extract from RINF) already indicates the use of ETCS system version 2.1.

Example 1.2: The Network Statement 2025 (based on extract from RINF) indicates the use of ETCS system version 2.1.

Following transition scheme applies for these examples:

	Explanation on TSI change	Design phase started after TSI set into force	Design phase started before TSI set into force	Production phase	Vehicle in operation
Example 1.1	Notification of ETCS system version 2.1 included in Network Statement of 2021.	Directly applicable for vehicles for which the design phase starts after 01 st January 2023.	Applicable if design phase not ended before 01 st January 2028.	Not applicable	Not applicable
Example 1.2	Notification of ETCS system version 2.2 included in Network Statement of 2025.	Directly applicable for vehicles for which the design phase starts after 01 st January 2025.	Applicable if design phase not ended before 01 st January 2030.	Not applicable	Not applicable
		Design phase started before 01 st January 2025, applicable if design phase not ended before 01 st January 2030.			

Example 2: ATO and/or ETCS system version 2.2 (as compatible change)

Assumption: TSI is entering into force on 01st January 2023

Example 2.1: The Network Statement 2024 (based on extract from RINF) indicates the use of ATO and ETCS system version 2.2.

Example 2.2: The Network Statement 2028 (based on extract from RINF) indicates the use of ETCS system version 2.2.

Following transition scheme applies for these examples:

	Explanation on TSI change	Design phase started after TSI set into force	Design phase started before TSI set into force	Production phase	Vehicle in operation
Example 2.1	Notification of ATO and ETCS system version 2.2 included in Network Statement of 2024.	Directly applicable for vehicles for which the design phase starts after 01 st January 2025.	Applicable if the design phase is not ended before 01 st January 2030.	Not applicable	Not applicable
		Design phase started before 01 st January 2025, applicable if design phase not ended before 01 st January 2030.			
Example 2.2	Notification of ETCS system version 2.2 included in Network Statement of 2028.	Directly applicable for vehicles for which the design phase starts after 01 st January 2028.	Applicable if the design phase is not ended before 01 st January 2033.	Not applicable	Not applicable
		Design phase started before 01 st January 2028, applicable if design phase is not ended before 01 st January 2033.			

Example 3: Incompatible changes

Assumption: TSI is entering into force on 01st January 2023

Example 3.1: ETCS system version 3.0 (incompatible changes for associated CRs such as non-leading, radio remote control shunting, relocation without linking, ...):

The Network Statement 2027 (based on extract from RINF) indicates the use of ETCS system version 3.0 in order to become mandatory applicable at trackside in 2032 (minimum notification period of 5 years).

Following transition scheme applies for this example:

	Explanation on TSI change	Design phase started after TSI set into force	Design phase started before TSI set into force	Production phase	Vehicle in operation
Example 3.1	Notification of ETCS system version 3.0 included in Network Statement of 2027.	For vehicles which the design phase starts after 01 st January 2027: directly applicable For vehicles which the design phase starts before 01 st January 2027: applicable from 01 st January 2032	Applicable from 01 st January 2032	Note: from 01 st January 2032 onwards, vehicles require ETCS system version 3.0 on the area of use for compatibility with the ETCS trackside implementation.	Note: from 01 st January 2032 onwards, vehicles require ETCS system version 3.0 on the area of use for compatibility with the ETCS trackside implementation.

Example 3.2: ETCS system version 3.0 (incompatible changes for associated CRs such as non-leading, radio remote control shunting, relocation without linking, ...):

The Network Statement 2024 (based on extract from RINF) indicates the use of ETCS system version 3.0. ETCS system version 3.0 is notified in 2024 in order to become mandatory applicable at trackside in 2034 (the Member States decided to provide a 10 year announcement instead of minimum notification period of 5 years).

Following transition scheme applies for this example:

	Explanation on TSI change	Design phase started after TSI set into force	Design phase started before TSI set into force	Production phase	Vehicle in operation
Example 3.2	Notification of ETCS system version 3.0 included in Network Statement of 2024.	For vehicles which the design phase starts after 01 st January 2025: directly applicable For vehicles which the design phase starts before 01 st January 2025: applicable from 01 st January 2030	Applicable from 01 st January 2030	Note: from 01 st January 2034 onwards, vehicles require ETCS system version 3.0 on the area of use for compatibility with the ETCS trackside implementation.	Note: from 01 st January 2034 onwards, vehicles require ETCS system version 3.0 on the area of use for compatibility with the ETCS trackside implementation.

Example 4: FRMCS (and associated ETCS system version 3.0)

- Assumption: FRMCS on-board specifications v 2.0.0 published and applicable from 01st January 2025

Example 4.1:

- IM notifies the use of FRMCS in Network Statement of 2025 and implements FRMCS TS from 2028 onwards as compatible enhancement;
- IM is decommissioning GSM-R service in June 2038 (FRMCS as incompatible enhancement)

	Explanation on TSI change	Design phase started after TSI set into force	Design phase started before TSI set into force	Production phase	Vehicle in operation
Example 4.1	Notification of FRMCS implementation in Network Statement of 2025.	For vehicles which the design phase starts after 01 st January 2027: directly applicable For vehicles which the design phase starts before 01 st January 2027: applicable from 01 st January 2032	Applicable from 01 st January 2032	Note: from June 2038 onwards, vehicles require the use of FRMCS on the area of use for compatibility with the RMR trackside implementation.	Note: from June 2038 onwards, vehicles require the use of FRMCS on the area of use for compatibility with the RMR trackside implementation.

Example 4.2

- IM notifies the use of FRMCS in Network Statement of 2028 and implements FRMCS TS from 2032 onwards as compatible enhancement;
- IM is decommissioning GSM-R service in June 2040 (FRMCS as incompatible enhancement)

Following transition scheme applies for this example:

	Explanation on TSI change	Design phase started after TSI set into force	Design phase started before TSI set into force	Production phase	Vehicle in operation
Example 4.2	Notification of FRMCS implementation in Network Statement of 2028.	For vehicles which the design phase starts after 01 st January 2028: directly applicable For vehicles which the design phase starts before 01 st January 2028: applicable from 01 st January 2033	Applicable from 01 st January 2033	Note: from June 2040 onwards, vehicles require the mandatory implementation of FRMCS for compatibility with the FRMCS only trackside implementation.	Note: from June 2040 onwards, vehicles require the mandatory implementation of FRMCS for compatibility with the FRMCS only trackside implementation.