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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

on the progress made towards achieving interoperability of the Union rail system and the functioning of the European Union Agency for Railways in this context

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Introduction

Article 53 of Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union[1] requires the Commission to report on the progress made towards achieving interoperability of the Union rail system and the functioning of the European Union Agency for Railways ('the Agency') in this context since the Directive's entry into force.

This, the first such report, covers the period from 16 June 2016 to 30 June 2024.

Furthermore, Article 53(1) states that the report will also include an evaluation of the implementation and use of the registers under Chapter VII – i.e. the European Vehicle Register (EVR), the European Register of Authorised Vehicle Types (ERATV) and the Register of Infrastructure (RINF) – and an analysis of the cases set out in Article 7 (i.e. cases of non-application of technical specifications for interoperability (TSIs) involving individual projects).

Lastly, it instructs the Commission to conduct an analysis of the application of Chapter V, i.e. decisions by the authorising entities, the Agency and/or national safety authorities (NSAs) on the placing on the market of rail vehicles and the placing in service of fixed rail installations and on approval by the Agency of European Rail Traffic Management System (ERTMS) trackside projects. In particular, the assessments focus on the functioning of the cooperation agreements concluded between the Agency and NSAs to facilitate joint decision-making.

Details about the Agency's activities and the progress achieved on rail safety and interoperability are covered by the reports on safety and interoperability, to be published by the Agency every two years under Article 35(4) of Regulation (EU) 2016/796 of the European Parliament and of the Council of 11 May 2016 on the European Union Agency for Railways and repealing Regulation (EC) No 881/2004[2].

This report seeks to avoid duplication with the evaluation and reporting required under Article 82 of Regulation (EU) 2016/796, which is where Commission will assess the functioning of the Agency and the dual system under which the NSAs and the Agency deliver authorisations, certifications and approvals.

The Member States transposed Directive (EU) 2016/797 in three phases. According to Article 57(1) of the Directive, measures to comply with obligations referred to in that Article should have been adopted by 16 June 2019. However, Article 57(2) provided the Member States with a possibility, upon notification to the Commission and the Agency, to extend this deadline to

[1] OJ L 138 26.5.2016, p. 44., ELI: http://data.europa.eu/eli/dir/2016/797/

[2] OJ L 138, 26.5.2016, p. 1., ELI: https://eur-lex.europa.eu/eli/reg/2016/796/

16 June 2020). As part of the emergency measures in response to the COVID-19 pandemic, an additional transposition deadline of 31 October 2020 was introduced. The Commission checked the completeness of Member States' notifications on how they had transposed Directive (EU) 2016/797. Based on the results of the completeness checks, 13 non-communication infringement proceedings were opened. After most Member States had notified additional legal texts, the Commission closed 12 out of 13 proceedings by May 2025.

Conformity checks on the transposition of Directive (EU) 2016/797 were completed for six Member States, accompanied by EU-Pilot questionnaires, the replies to which the Commission is currently evaluating. Conformity checks on legislation in the remaining Member States is ongoing with a view to assessing compliance and the need to open EU-Pilot questionnaires or infringement proceedings.

Through other work streams, by the end of the transitional period (31 October 2020) the Commission had carried out extensive consultations with the relevant stakeholders for the purposes of this first report.

1. Removing national rules

In June 2024, the Agency calculated that there were still 796 national rules applicable in Member States under Article 14 of Directive (EU) 2016/797, i.e. those relevant to vehicle authorisation and fixed installations (formerly referred to collectively as national technical rules) in EU Member States, down from 13 459 in January 2016. Progress towards removing the national rules on vehicle authorisation since 2016 is shown in Figure 1, with futher details of progress since 2020 shown in Figure 2. It should be noted that, the clean-up progress of national rules is still in its infancy. This means that for some countries the Agency is still assessing the first set of rules notified under Article 14(1)(a) of Directive (EU) 2016/797.

National safety rules – those considered when the Agency issues single safety certificates (SSCs) – are notified to the Commission and the Agency under Article 8 of Directive (EU) 2016/798[3] and therefore fall outside the scope of this report on interoperability.

[3] Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety, OJ L 138, 26.5.2016, p. 102, ELI: https://eur-lex.europa.eu/eli/dir/2016/798/

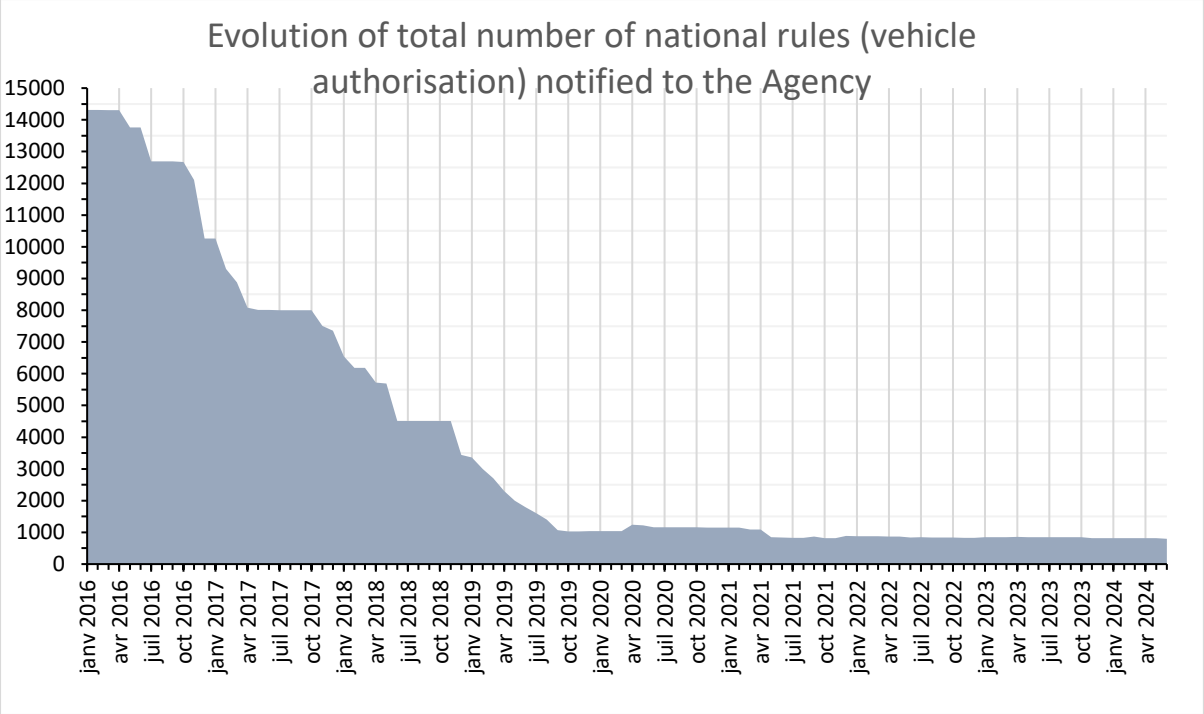

Figure 1: Progress towards removing national rules on vehicle authorisation between January 2016 and June 2024 (EU-28 including the United Kingdom until the end of 2019; Source: ERA)

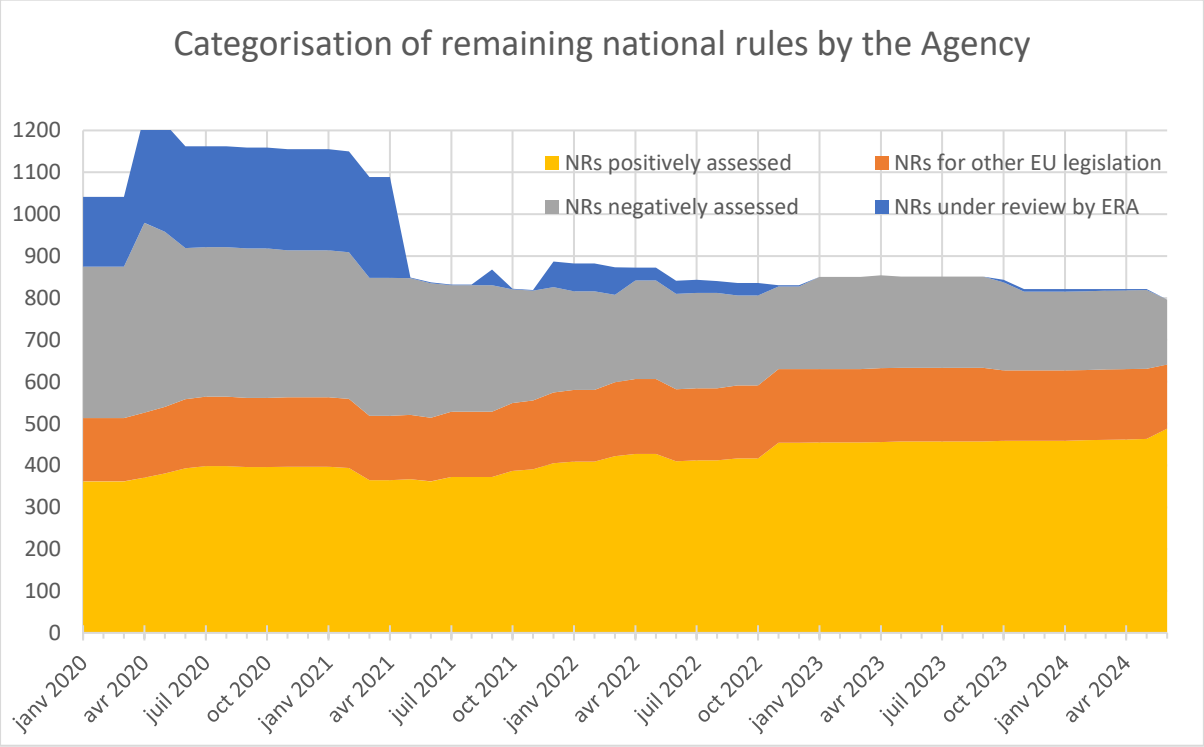

Figure 2: National rule clean-up for vehicle authorisation with remaining rules between January 2020 and June 2024, EU-27 (Source: ERA)

2. 2023 Revision of the TSIs

At present, 11 TSIs have been adopted and revised through Commission regulations and Commission implementing regulations. These three functional and eight structural TSIs make up the technical regulatory framework for railway subsystems. Functional TSIs cover operation and traffic management (OPE[4]), telematics (i.e. computer/computerised) applications for passenger services (TAP[5]) and telematics applications for freight (TAF[6]). The structural TSIs cover infrastructure (INF[7]), energy (ENE[8]), safety in railway tunnels (SRT[9]), accessibility for persons with disabilities and persons with reduced mobility (PRM[10]), locomotives and passenger rolling stock (LOC&PAS[11]), freight wagons (WAG[12]), rolling stock noise (NOI[13]) and control-command and signalling (CCS[14]).

Since June 2016, there have been two major TSI revision cycles. In addition, following extensive stakeholder consultations, in August 2024 the Agency was asked to provide

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4 Commission Implementing Regulation (EU) 2019/773 of 16 May 2019 on the technical specification for interoperability relating to the operation and traffic management subsystem of the rail system within the European Union and repealing Decision 2012/757/EU, OJ L 139I 27.5.2019, p. 5, ELI: http://data.europa.eu/eli/reg_impl/2019/773/

5 Commission Regulation (EU) No 454/2011 of 5 May 2011 on the technical specification for interoperability relating to the subsystem 'telematics applications for passenger services' of the trans-European rail system, OJ L 123 12.5.2011, p. 11, ELI: http://data.europa.eu/eli/reg/2011/454/

6 Commission Regulation (EU) No 1305/2014 of 11 December 2014 on the technical specification for interoperability relating to the telematics applications for freight subsystem of the rail system in the European Union and repealing the Regulation (EC) No 62/2006, OJ L 356 12.12.2014, p. 438, ELI: http://data.europa.eu/eli/reg/2014/1305/

7 Commission Regulation (EU) No 1299/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'infrastructure' subsystem of the rail system in the European Union, OJ L 356 12.12.2014, p. 1, ELI: http://data.europa.eu/eli/reg/2014/1299/

8 Commission Regulation (EU) No 1301/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'energy' subsystem of the rail system in the Union, OJ L 356 12.12.2014, p. 179, ELI: http://data.europa.eu/eli/reg/2014/1301/

9 Commission Regulation (EU) No 1303/2014 of 18 November 2014 concerning the technical specification for interoperability relating to 'safety in railway tunnels' of the rail system of the European Union, OJ L 356 12.12.2014, p. 394, ELI: http://data.europa.eu/eli/reg/2014/1303/

10 Commission Regulation (EU) No 1300/2014 of 18 November 2014 on the technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility, OJ L 356 12.12.2014, p. 110, ELI: http://data.europa.eu/eli/reg/2014/1300/

11 Commission Regulation (EU) No 1302/2014 of 18 November 2014 concerning a technical specification for interoperability relating to the 'rolling stock – locomotives and passenger rolling stock' subsystem of the rail system in the European Union, OJ L 356, 12.12.2014, p. 228, ELI: http://data.europa.eu/eli/reg/2014/1302/

12 Commission Regulation (EU) No 321/2013 of 13 March 2013 concerning the technical specification for interoperability relating to the subsystem 'rolling stock – freight wagons' of the rail system in the European Union and repealing Decision 2006/861/EC, OJ L 104, 12.4.2013, p. 1, ELI: http://data.europa.eu/eli/reg/2013/321/

13 Commission Regulation (EU) No 1304/2014 of 26 November 2014 on the technical specification for interoperability relating to the subsystem 'rolling stock – noise' amending Decision 2008/232/EC and repealing Decision 2011/229/EU, OJ L 356, 12.12.2014, p. 421, ELI: http://data.europa.eu/eli/reg/2014/1304/

14 Commission Implementing Regulation (EU) 2023/1695 of 10 August 2023 on the technical specification for interoperability relating to the control-command and signalling subsystems of the rail system in the European Union and repealing Regulation (EU) 2016/919, OJ L 222, 8.9.2023, p. 380, ELI: http://data.europa.eu/eli/reg_impl/2023/1695/

recommendations on future TSI revisions (outlining a multiannual plan for the upcoming TSI revision cycles until 2030 to prepare TSIs for new technologies), close points that remain open where national rules remain applicable and or add areas inadequately covered in previous TSI versions.

In 2019, all TSIs were revised[15] to be brought into line with the fourth Railway Package. Only OPE TSI underwent a more in-depth revision.

In 2023, eight TSIs were revised with a view to achieving higher levels of interoperability. Moreover, Commission Regulation on the CCS TSI was subject to the recast and Commission Regulations on the LOC&PAS, WAG, OPE, INF, ENE and PRM TSIs were amended. Figure 3 summarises the specific cases and points that remain open after these revisions.

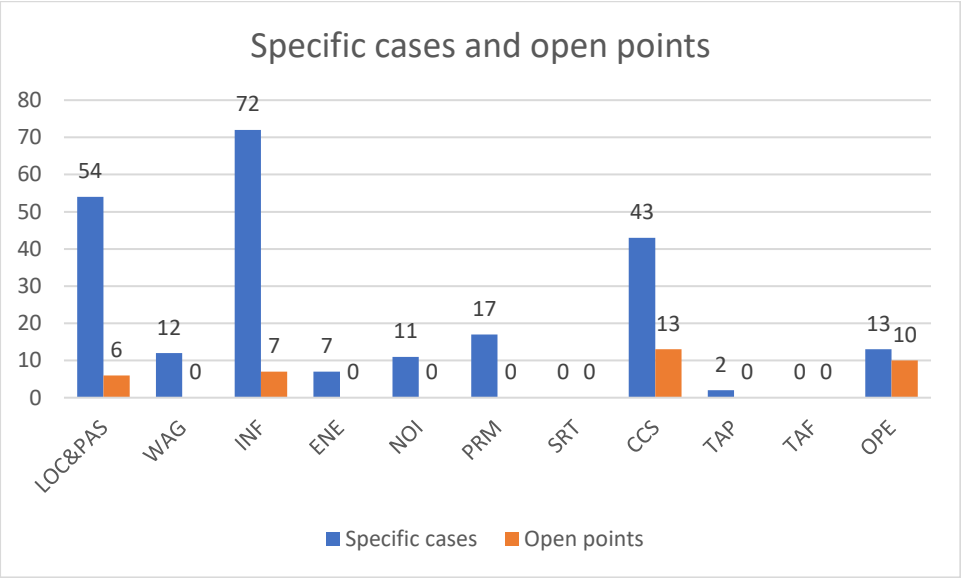

Figure 3: Specific cases and open points per TSI as of 30 June 2024

a. LOC&PAS, WAG, NOI and CCS TSIs

- Unique authorisation for passenger coaches

Provisions for passenger coaches similar to the existing Europe-wide single authorisation for freight wagons were also adopted in 2023. These set out TSI requirements under which the Agency can issue vehicle authorisations without having to cooperate with NSAs if there are no additional national rule requirements that need to be assessed. Requirements on electromagnetic compatibility were included in Commission Regulation on the LOC&PAS TSI. To further harmonise requirements for electromagnetic compatibility and further simplify the authorisation, Commission Regulation on the CCS TSI also mandates Member States to notify the Agency of specifications for all existing installed trackside train detection devices.

[15] A chronology table for all TSIs can be found at https://www.era.europa.eu/system/files/2022-10/TSIs%20chronology%20table.pdf?t=1718972267. It includes details of the Commission implementing regulations that updated one or multiple TSIs.

- Detecting and preventing freight wagon derailments

In Commission Regulations on the LOC&PAS and WAG TSIs, further requirements were added for functions detecting and preventing train derailments for vehicles equipped with such technology. This will help to increase rail safety by preventing or mitigating the consequences of a vehicle derailment.

- Noise limits and assessment of composite brake blocks at the level of the interoperability constituent

The Commission Regulation on NOI TSI applies limits on noise from stationary, starting and pass-by modes of train operations and inside the driver's cabin. The methodologies to assess the acoustic performance of composite brake blocks were also laid down in order to further reduce noise emissions, as set out in Directive 2002/49/EC[16].

- Framework to manage CCS TSI specification changes (correcting errors, providing a single set of specifications, ensuring full delivery)

To further advance harmonisation and interoperability via the European command control and signalling system, the Commission Regulation on CCS TSI introduced specific transitional arrangements for rectifying errors. The principle of providing a single set of specifications was introduced alongside version management, including adaptations to existing higher versions. Furthermore, the possibility of only partially fulfilling the CCS TSI was removed and replaced by specific transitional arrangements.

- CCS TSI enhancements (ATO, FRMCS and DAC readiness) and system versions

To achieve further rail digitalisation, the existing specifications for automatic train operation (ATO) as well as interface specifications for the future rail mobile communication system (FRMCS) were added to the Commission Regulation on CCS TSI. Further requirements were also laid down with a view to compliance during the transition period in order to pave the way for faster integration of future available specifications (a full set of specifications for FRMCS, specifications for digital automatic coupling (DAC)).

b. OPE TSI

- Digitalisation of communication

The digital means of communication between infrastructure managers (IMs) and railway undertakings (RUs), i.e. route compatibility checks, route books and rule books, were specified. The associated implementation deadlines were also determined in the Commission Regulation on TSI OPE.

In August 2024, the Agency was requested to further specify the digital means for other communications. In the meantime, the revision of the TAP and TAF TSIs planned for 2025

[16] Directive 2002/49/EC of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise, OJ L 189, 18.7.2002, p. 12, ELI: http://data.europa.eu/eli/dir/2002/49/oj

will also spell out the digital means for communications relating to capacity management, traffic management and train preparation.

- European Train Control System (ETCS) operational rules, marker boards and European Instructions

Further harmonisation took place of the operational rules linked to ETCS level 2 and ETCS level 3 radio-based operation without overlay of Class B and lineside signalling. The changes introduced new operational rules as well as others designed to complement the existing rules.

Close cooperation was established with the relevant standardisation groups on harmonised marker boards (optimised existing ones and new additional ones). The additional harmonised marker boards were incorporated into the relevant operational rules of the OPE TSI, indicating where marker boards are not yet defined.

An amendment to the European Instruction was introduced in response to the sector´s needs.

c. INF and ENE TSIs

- Infrastructure

The scope of the fixed installation TSIs (in particular, ENE and INF) was widened. If upgrades are implemented for which there is a defined performance criterion, full compliance with these TSIs is now necessary within the geographical area of the upgrade scheme. This was not the case under the previous compliance obligation, which was only partial. The measure in question is designed to accelerate the railway infrastructure's TSI compliance and help improve the interoperability of rail networks, thus avoiding any knock-on constraints for train operations.

Other provisions to enable the charging of traction batteries and on the use of multiple pantographs were introduced in the ENE TSI.

d. PRM TSI

In 2023, the requirement for notified bodies to conduct on-site visits to inspect infrastructure subsystems was reinstated to ensure that the PRM TSI was correctly enforced.

Changes to operational rules laid down in Commission Regulation on TSI PRM were also introduced, e.g. if a service is only provided in a part of a train not accessible to wheelchair users, it must be provided to wheelchair users in the wheelchair space without any additional charge, unless it is impossible to deliver the service to that space. For rolling stock subsystems, the door-finding signal was introduced as an alternative to the door-opening signal outside the train. Another innovation is the possibility to dispense with the door-closing signal when alternatives (e.g. light curtains, sensitive edges) are in place to mitigate the risk of injury for passengers and train crew.

A definition of an interoperable wheelchair transportable by train was also added. This describes the characteristics of a wheelchair that allows all features of rolling stock designed for wheelchair users to be fully utilised by the passenger.

e. Combined transport

Various TSIs were amended in relation to combined transport[17]. These changes, which facilitate the codification of lines (INF TSI) under Commission Implementing Regulation (EU) 2019/777[18], wagons and intermodal loading units (ILUs), establish common harmonised rules for the operation of combined transport.

The Commission Regulation on WAG TSI contains a general requirement relating to devices for securing ILUs, to ensure that these are properly secured during transport to prevent loss or damage.

The Commission Regulation on OPE TSI incorporated rules on route compatibility checks and related operational rules in order to ensure that combined transport operations pass off safely and efficiently.

Overall, the changes aim to facilitate combined transport by providing transparent rules and requirements for the codification of lines, wagons and ILUs as well as for operating combined transport. This will help to improve the operational efficiency and safety of combined transport and reduce the administrative load on operators.

3. Implementing the functions of the TAP and TAF TSIs

Implementation of rail telematics applications is key to achieving paperless rail transport.

The revision of the TAF and TAP TSIs is due to be finalised in 2025. This will ensure consistency between common aspects for both freight services and passenger services under a single regulation on Telematics TSI, which will support data sharing for:

(1) capacity and traffic management as well as train preparation;
(2) management of freight wagons and their shipment;
(3) rail ticketing and passenger information.

Another aim is to strengthen the Agency's role as the authority for telematics systems and to enable enforcement of the future regulation on TSI Telematics by applying implementation deadlines along with a monitoring and compliance assessment framework overseen by the Agency.

Pending the introduction of legally binding implementation deadlines, the master plans provide the basis for implementing telematics functions at sector level. Issued in 2013, the TAP TSI[19] and TAF TSI[20] master plans state that implementation was to be finalised by 2020 for point (3) above and by 2021 for points (1) and (2).

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[17] Council Directive 92/106/EEC of 7 December 1992 on the establishment of common rules for certain types of combined transport of goods between Member States, OJ L 368, 17.12.1992, p. 38, ELI: https://eur-lex.europa.eu/eli/dir/1992/106/

[18] Commission Implementing Regulation (EU) 2019/777 of 16 May 2019 on the common specifications for the register of railway infrastructure and repealing Implementing Decision 2014/880/EU, OJ L 139I, 27.5.2019, p. 312, ELI: https://eur-lex.europa.eu/eli/reg_impl/2019/777/

[19] https://www.era.europa.eu/system/files/2022-11/tap_master_plan_delivery_en_0.pdf

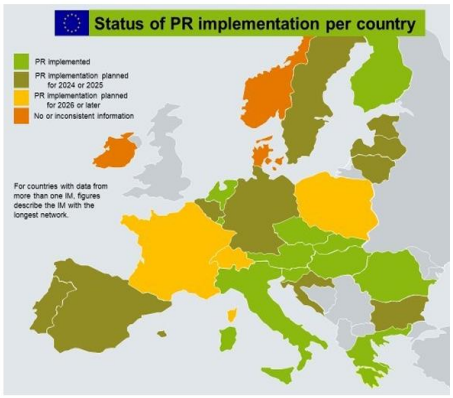
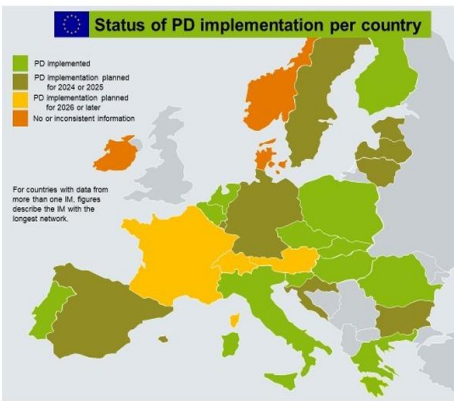
[20] https://www.era.europa.eu/system/files/2022-11/taf_tsi_master_plan_en_0.pdf

Article 23 of Regulation (EU) 2016/796 requires the Agency to help the Commission monitor deployment of the specifications for telematics applications. Accordingly, the Agency compiles and publishes an annual progress report on implementation of the functions set out in the Commission Regulations on the TAP and TAF TSIs. For this report, the monitoring of the implementation of key functions relating to capacity and traffic management is highlighted in Table 1. Implementation figures are reproduced for infrastructure managers (IMs), freight railway undertakings (F-RUs) and passenger railway undertakings (P-RUs) from the Agency's 2023 status reports[21] on the implementation of the TAF and TAP TSIs.

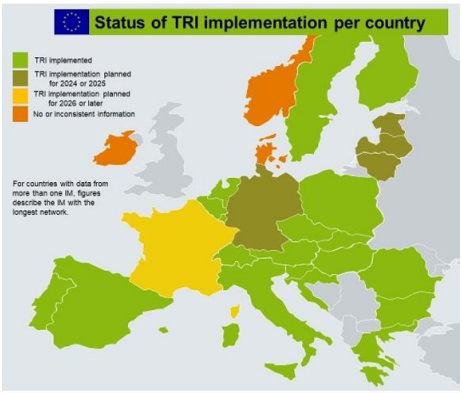
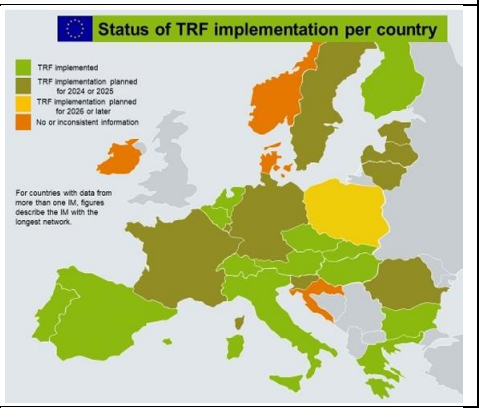
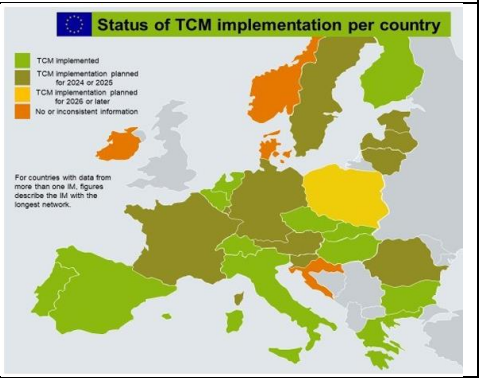
According to the applicable TAF/TAP TSI master plans, the target implementation milestones for functions supporting capacity management were 2017 for IMs and F-RUs and 2018 for P-RUs.

Table 1: Implementation of key functions relating to capacity and traffic management

Legend applicable to all maps displaying the status of implementation per country: (i) green – implemented, (ii) dark green – implementation planned for 2024 or 2025, (iii) yellow – implementation planned for 2026 or later, (iv) red – no or inconsistent information. For countried with data from more than one IM, figures describe the IM with the longest network.

	Implementation status	**Implementation forecast for IMs**
Capacity management		
Path request (PR)	IM: 43% implemented RU-F: 35% implemented RU-P: 41% implemented	
Path details (PD)	IM: 51% implemented RU-F: 43% implemented RU-P: 47% implemented	

[21] 2023 Agency's status reports on the implementation of TAF/TAP TSIs: https://www.era.europa.eu/system/files/2024-11/agency_s%202023%20report%20era-rep-114-impl-2023%20on%20taf%20tsi%20implementation%20-%20di.pdf

	Implementation status	Implementation forecast
Traffic management		
Train running information (TRI)	IM: 61% implemented RU-F: 51% implemented RU-P: 56% implemented	
Train forecast information (TRF)	IM: 49% implemented RU-F: 38% implemented RU-P: 40% implemented	
Train composition (TCM)	IM: 53% implemented RU-F: 48% implemented RU-P: 48% implemented	

Although systemic delays affected implementation, it should be emphasised that the commitments of IMs, as collected in the 2022 Agency survey, highlight the fact that most of the functions supporting capacity management and traffic management were due to be implemented and completed during 2024 and 2025, i.e. in time for the 2026 timetable period.

4. Implementation of registers (EVR, ERATV, RINF)

a. EVR

To ensure that rail vehicles operated in the Single European Railway Area can be traced and their history plotted, Article 47 of Directive (EU) 2016/797 introduced dedicated vehicle registers. The Directive requires each Member State to keep a national vehicle register and make it accessible to relevant stakeholders, including the Agency. Commission Implementing

Decision (EU) 2018/1614[22] lays down specifications for a European Vehicle Register (EVR) to replace the European Centralised Virtual Vehicle Register (ECVVR). This means that instead of decentralised national vehicle registers made accessible through a common, Agency-based search and translation engine, the vehicle registration data will now be hosted centrally by the Agency. This solution offers several advantages as it reduces technical complexity and administrative loads. At the same time, it increases data availability and quality by removing duplicate entries.

EVR became fully operational in November 2021. By 25 June 2024, 17[23] out of the 25 Member States concerned plus Norway had migrated from ECVVR over to the centrally administered EVR system. France uses EVR, but its data are not stored centrally. With this in mind, to ensure business continuity ECVVR will remain in regular use until data migration has been completed. In total, over 1.2 million vehicles (including valid, suspended and withdrawn vehicles) are recorded in ECVVR/EVR.

Table 2 provides an overview of the vehicles with a valid/active status recorded in ECVVR/EVR by vehicle type (data extracted in June 2024). Vehicles included in ECVVR/EVR are expected to account for 80% or more of vehicles.

Table 2: Vehicles with a valid registration recorded in ECVVR/EVR (June 2024)

Category of vehicles	Number of vehicles (valid registration)
Tractive vehicles - Diesel locomotive	11 287
Tractive vehicles - Diesel shunting engine	6 108
Tractive vehicles - Electric locomotive	14 623
Tractive vehicles - Electric shunting engine	602
Tractive vehicles - Diesel multiple-unit set	17 285
Tractive vehicles - Electric multiple-unit set (except high speed)	58 982
Tractive vehicles - Electric multiple-unit set (high speed)	13 487
Tractive vehicles - Miscellaneous	6 895
Tractive vehicles - Special vehicle	18 316
Tractive vehicles - Specialised trailer	2 540
Wagon	637 260
Hauled passenger vehicles - Vehicles for domestic traffic	30 855
Hauled passenger vehicles - Air-conditioned and pressure-tight vehicles	4 834
Hauled passenger vehicles - Service vehicles	10 371

[22] Commission Implementing Decision (EU) 2018/1614 of 25 October 2018 laying down specifications for the vehicle registers referred to in Article 47 of Directive (EU) 2016/797 of the European Parliament and of the Council and amending and repealing Commission Decision 2007/756/EC, OJ L 268, 26.10.2018, p. 53, ELI: http://data.europa.eu/eli/dec_impl/2018/1614/

[23] Belgium, Bulgaria, Czechia, Greece, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, and Sweden

Grand total	**833 445**

Source: ECVVR/EVR

As with other Agency registers, data reliability depends on the extent to which the information provided is accurate, complete and up to date. This is particularly important when linking/matching information from several registers.

b. ERATV

Under Article 48 of Directive (EU) 2016/797, the ERATV register[24] contains data on authorised vehicle types. Its common technical specifications are set out in Commission Implementing Decision 2011/665/EU[25] on the European register of authorised types of railway vehicles. Hosted by the Agency, ERATV has been in operation since January 2013. ERATV data become publicly available once they have been submitted by the authorising entity (NSAs or the Agency).

ERATV is intended for use in combination with other registers and databases, in particular with EVR (Section 4.a of this report) and RINF (Section 4.c of this report). When a vehicle is recorded in a vehicle register, identification in ERATV (Type ID) of the authorised vehicle type (or version or variant) with which it complies, must be indicated when available. This Type ID makes a vehicle's technical characteristics retrievable from ERATV.

ERATV contains over 6 000 type authorisations. As with other Agency registers, data reliability depends on the extent to which the information provided is up to date and complete. The Agency is not responsible or liable for information submitted and published in ERATV. Data quality is expected to be high as the details provided are checked during vehicle authorisation processes.

c. Register of Infrastructure (RINF)

RINF's main purpose is to make the characteristics of the EU railway infrastructure network available in the form of a reference database. As such, RINF is the main IT tool for describing the railway networks' characteristics and capabilities across Europe. It is set out in Article 49 of Directive (EU) 2016/797 and regulated by Commission Implementing Regulation (EU) 2019/777[26]. The computerised common user interface, or CUI, behind this register, which simplifies infrastructure data queries, has been publicly available since March 2015[27].

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[24] https://eratv.era.europa.eu/eratv

[25] Commission Implementing Decision of 4 October 2011 on the European register of authorised types of railway vehicles, OJ L 264, 8.10.2011, p. 32, ELI: http://data.europa.eu/eli/dec_impl/2011/665/

[26] Commission Implementing Regulation (EU) 2019/777 of 16 May 2019 on the common specifications for the register of railway infrastructure and repealing Implementing Decision 2014/880/EU, OJ L 139I, 27.5.2019, p. 312, ELI: http://data.europa.eu/eli/reg_impl/2019/777/

[27] https://data-interop.era.europa.eu

By early 2024, at least one technical parameter for around 92% of Member State[28] railway networks had been entered in the database. Since 1 January 2021, certain parameters have been mandatory for sections of lines (SoLs) and operational points (OPs); respectively, these are now 78% and 83% complete.

As with other databases, usefulness is based on the completeness of the data contained in the database.

RINF data reliability depends on the accuracy of inputs under the responsibility of the IMs. This accuracy was found to be variable. Accuracy is crucial for the database to be effective (return on investment) and for RUs to fulfil their obligations, e.g. for vehicle-route compatibility checks and route book aggregations.

5. Cases of TSI non-application

Between 16 June 2016 and 30 June 2024, the Commission received 273 requests for non-application of TSI provisions from EU Member States[29] and Norway. Figure 1 shows the annual distribution of these cases. In the seven (full calendar) years preceding the adoption of Directive (EU) 2016/797, i.e. between 2009 and 2015, 102 requests for non-application were submitted. In the seven (full calendar) years since adoption, this number more than doubled, with 228 requests for non-application submitted between 2017 and 2023. In the same period, the number of requests citing advanced stage of development (ASD) to justify them also more than doubled (80 to 169), while requests justified on the basis of economic viability quadrupled (12 to 51 – see Figure 4). Furthermore, there was a sixfold increase in the number of requests relating to TSI CCS (25 to 163) over the same period (Figure 5). These increases led to a considerable increase in the workload of the Commission services and the Agency as regardsprocessing applications and requests citing economic viability in relation to Commission implementing decisions.

Since the adoption of Directive (EU) 2016/797, the majority of cases have concerned the non-application of components of the CCS TSI (Figure 6). Increases in the total number of cases, CCS-related requests and requests on the grounds of ASD (Figure 7) all peaked in 2017, 2019 and 2024. This coincides ,with the adoption of the fourth Railway Package in 2016 and major packages on TSIs in 2019 and 2023. Requests for non-application vary between Member States (Figure 8), which is only in part because of the varying sizes of the national railway networks.

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[28] EU-27 minus Ireland, European Union Agency for Railways, *Report on railway safety and interoperability in the EU 2024*, Publications Office of the European Union, 2024, https://data.europa.eu/doi/10.2821/64343

[29] Including the United Kingdom until 2021. Figures display numbers for the whole of 2016; three of these 16 requests for non-application were received before the entry into force of the fourth Railway Package.

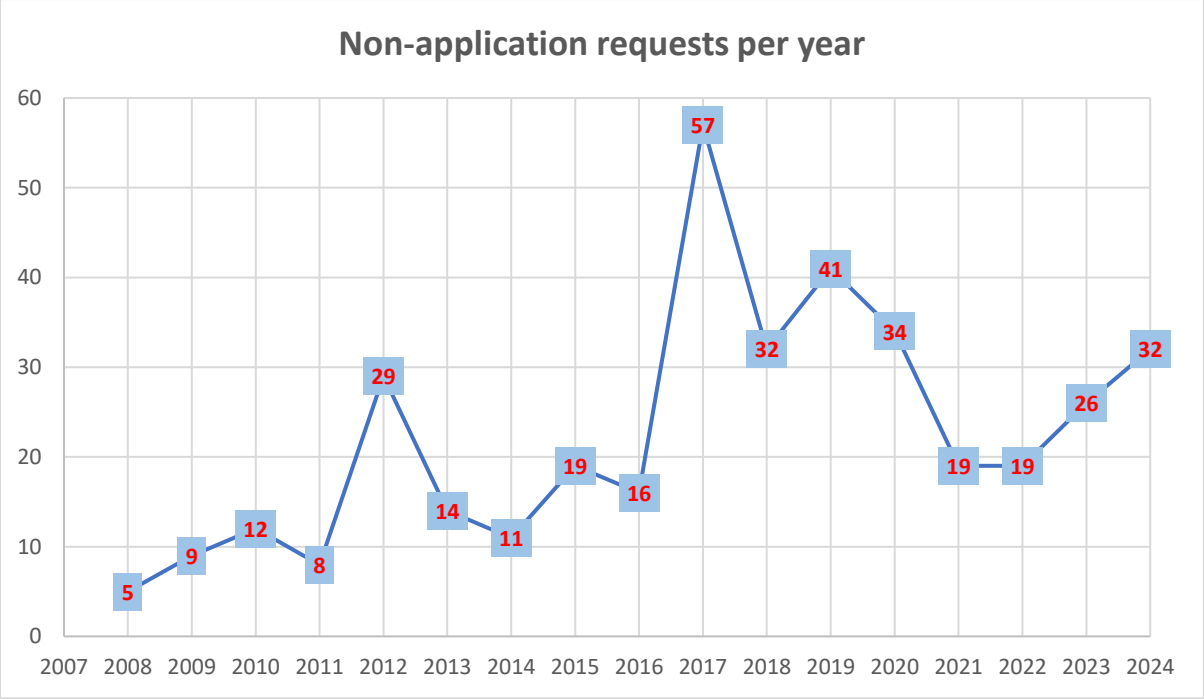

Figure 4: Non-application requests per year (2016-2024, where 2024 includes requests submitted up until 30 June)

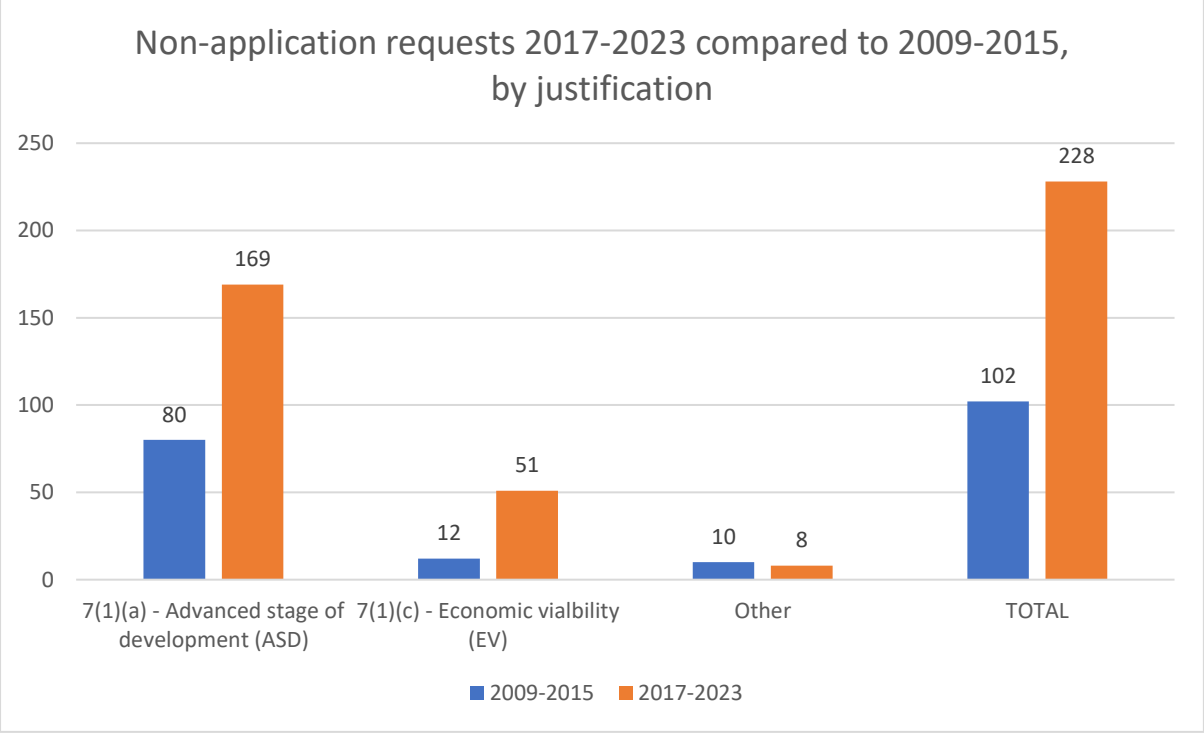

Figure 5: Non-application requests 2017-2023 compared to 2009-2015, by justification

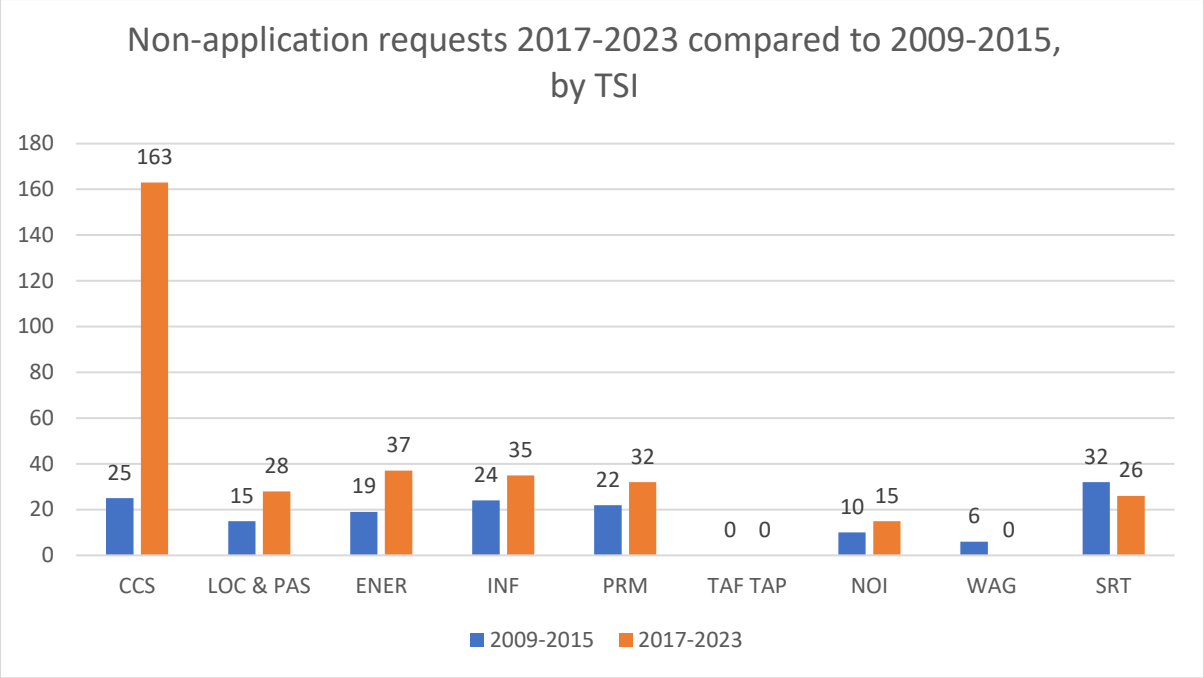

Figure 6: Non-application requests 2017-2023 compared to 2009-2015, by TSI

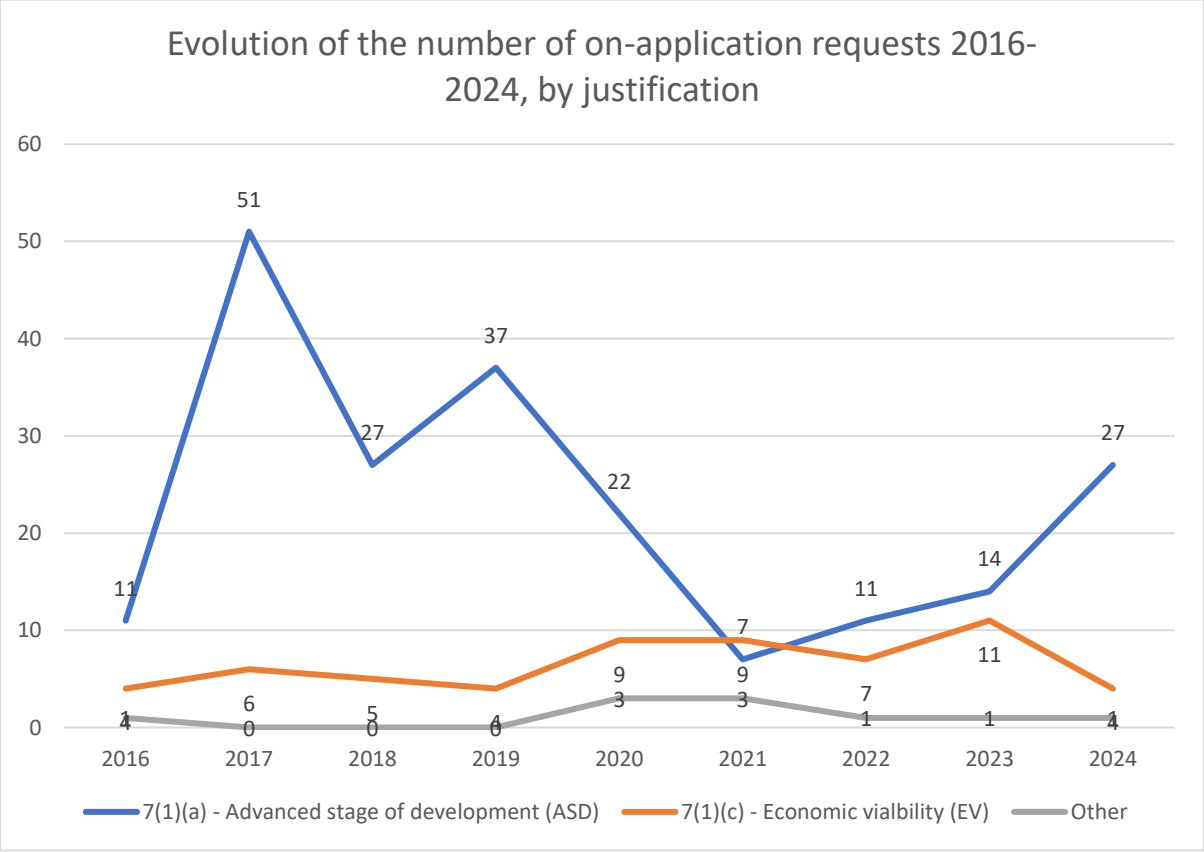

Figure 7: Non-application requests by TSI and year (2016-2024, where 2024 includes requests submitted up until 30 June)

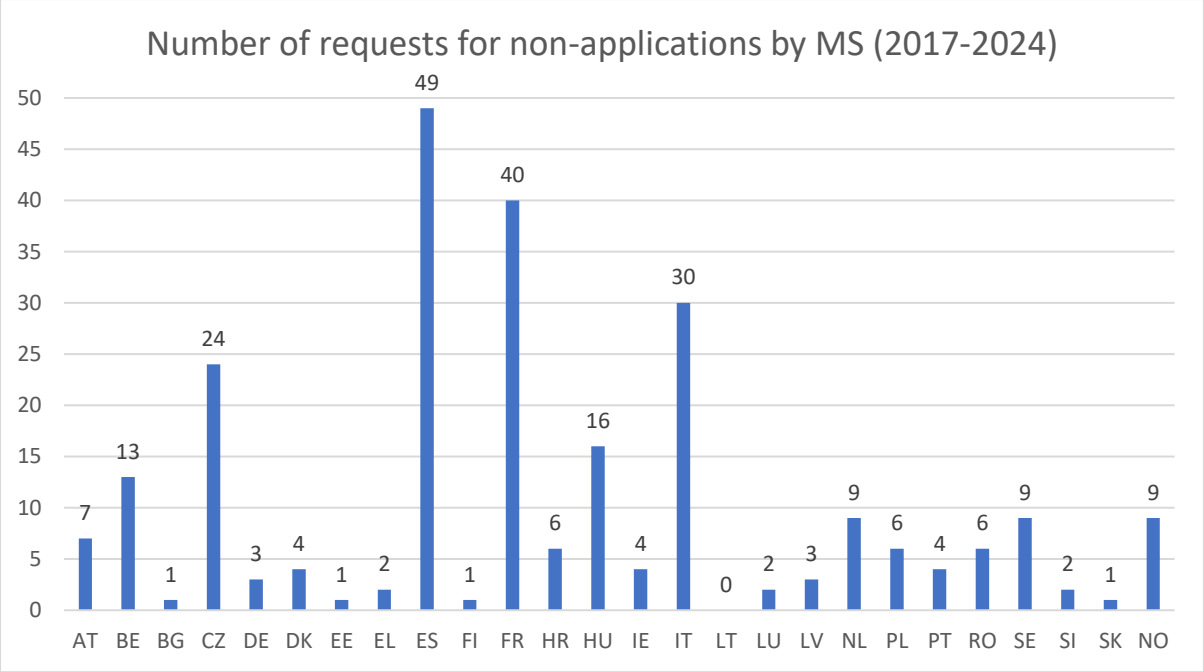

Figure 8: Non-application requests per EU-27 Member State and Norway (2017-2024, where 2024 includes requests submitted up until 30 June).

6. European Union for Railways (ERA) decisions: authorisations to place on the market vehicle types and vehicles, ERTMS trackside approvals

When the fourth Railway Package came into force, the Agency became responsible for authorising the placing on the market of railway vehicles. This chiefly involves locomotives, passenger coaches and wagons. For locomotives and passenger trains, applicants must apply to the Agency for authorisation if the area of use covers more than one Member State. If the vehicle's area of use is confined to a single Member State, applicants may chose to apply either to the Agency or to the respective national railway authority.

By 30 June 2024, the Agency had received 7 825 applications for vehicle authorisations, including 872 applications for type authorisations and 6 953 applications for authorisations involving conformity to type (Table 3). These numbers include 198 pre-engagement requests (11 for authorisations involving conformity to type and 187 for type authorisations). For vehicles used inin only one Member State, most applicants still decide to apply to the national authority for authorisation, but some applicants simply use the Agency, thus fully benefiting from a single contact point for all authorisations, irrespective of the area of use.

Table 3: Number of applications for vehicle authorisations processed by the ERA and NSAs between June 2019 and June 2024 (Source: One-Stop Shop)

	ERA		NSA	
	No of authorisation applications	**No of pre-engagement requests**	**No of authorisation applications**	**No of pre-engagement requests**
Authorisation involving conformity to type	6 942	11	4 383	13
Type authorisations	685	187	1 174	235
Total	**7 627**	**198**	**5 557**	**248**
	7 825		**5 805**	

7. NSA decisions: authorisation to place in service fixed installations, including ERTMS trackside

The NSAs are responsible for authorising the placing in service of fixed installations (infrastructure, energy and trackside control-command and signalling subsystems). However, before any call for tenders involving ERTMS trackside equipment, the Agency checks whether the technical solutions under consideration are fully compliant with the relevant TSIs and therefore fully interoperable as part of the ERTMS trackside approval process.

In June 2024, there were 125 ongoing applications. Since 2019, 19 approvals have been issued. 65% of applications relate to ETCS and 26% to Global System for Mobile Communications – Railway (GSM-R) equipment, with the remaining 9% relating to full ERTMS applications, i.e. both ETCS and GSM-R.

Given the differing ways in which Directive (EU) 2016/797 has been transposed, including the relevant Article 18, and subsequent diverging approaches by the Member States to the authorisation process for placing in service, the Commission and the Agency are currently examining if there is a need to issue additional guidance for a more harmonised approach.

8. Cooperation agreements concluded between the Agency and NSAs

Cooperation agreements are agreements between the Agency and the NSAs. They support the timely and comprehensive delivery of complex Agency decisions covering compliance assessments both with European and national rules on safety and interoperability. There are two types of cooperation agreement:

- mandatory cooperation agreements with the NSAs;
- voluntary cooperation agreements (known as pool of experts ('PoE') agreements).

The mandatory agreements are based on Article 76 of Regulation (EU) 2016/796. They regulate how tasks are shared between the Agency and the NSAs for the delivery of single safety certificates (SSCs) and vehicle authorisations (VAs). These include detailed provisions

on how the national authorities cooperate daily with the Agency on decisions to issue VAs and SSCs.

In addition, the voluntary PoE cooperation agreements provide the legal platform for sharing expertise and assigning experts to the NSAs or the Agency in order to assess specific SSC or VA applications.

The Agency has signed mandatory cooperation agreements with all 25 NSAs in the EU plus Norway's NSA. It also concluded an agreement with the NSA in Northern Ireland on VAs as part of the EU's remit under the EU-UK withdrawal agreement. Additionally, the Agency has signed voluntary cooperation agreements with 18 NSAs from the EU[30] as well as agreements with Switzerland and Norway.

9. Conclusion

Substantial progress has been made towards greater European rail interoperability since Directive (EU) 2016/797 was adopted in May 2016, as demonstrated by the 2019 and 2023 TSI revisions, ERA's management of common European rail registers and the cooperation agreements concluded between the Agency and the NSAs. Barriers remain, however. For example, the increase in the number of requests for non-application of TSI provisions, particularly on ERTMS, points to difficulties with fully implementing the CCS TSI. The registers suffer in practice from low levels of digitalisation. The differences in terms of transposing Directive (EU) 2016/797 and the remaining independent responsibilities of NSAs while performing their EU rail network authorisation tasks, continue to show national variations where greater harmonisation would be needed to create network efficiencies and lower operating costs for the benefit of European rail users and industries.

[30] Belgium, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Latvia, Luxembourg, Hungary, Netherlands, Poland, Portugal, Romania, Slovakia, Finland, and Sweden