Progress with **railway interoperability** in the **European Union**

2015

Biennial Report | Executive summary

EUROPEAN UNION AGENCY FOR RAILWAYS

Following the entry into force of the technical pillar of the 4th EU Railway Package, the European Union Agency for Railways replaces and succeeds the European Railway Agency (ERA). The change of name requires also a new corporate design. The "Agency" refers as from now to the European Union Agency for Railways. However depending on the context, some parts of this brochure still refer to the former ERA.

Manuscript completed in December 2015

Luxembourg: Publications Office of the European Union, 2016

Print	ISBN 978-92-9205-046-7	ISSN 1977-4370	doi:10.2821/960031	TR-AE-16-001-EN-C
PDF	ISBN 978-92-9205-045-0	ISSN 2467-2238	doi:10.2821/90831	TR-AE-16-001-EN-N

Printed in Belgium on recycled paper

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Foreword

Every 2 years the Agency delivers a report on progress with interoperability in the European Union in order to provide an overview of the developments in this area. In this fourth biennial report, for the first time, where possible, the statistical data and the results of our analysis are presented in maps to provide the reader with an easier overview.

In 2013 and 2014, the technical specifications for interoperability (TSIs) were further improved and their scope extended to the entire European Union railway system. The new scope-extended TSIs are applicable since 1 January 2015. The availability of a full set of EU-wide interoperability specifications for the railway target system in Europe makes many pre-existing national rules redundant. For this reason, in addition to the further improvement and completion of TSIs, the efforts were also focussed on the classification and analysis of these national rules, since the progressive removal of unnecessary technical barriers is paramount for the establishment of the Single European Railway Area.

Comprehensive and in-depth work was also carried out to define possible improvements of the train drivers directive in order to promote job mobility for train drivers and increase railway competitiveness too in the EU labour market.

The last 3 years were also dominated by discussions and preparations regarding the 4th Railway Package and the future role of the Agency.

Taking into account the complexity of the railway system and its multiple aspects (technological, legal, social, economic, political), defining 'interoperability' in rigorous and quantitative terms remains challenging. For this reason, we concentrated our efforts on establishing meaningful indicators aimed at giving an objective picture of railway interoperability today and of its evolution in time. These efforts are far from coming to an end and in the next years we will continue our commitment to improve the accuracy and completeness of this picture.


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Legal framework

Interoperability directive

In 2013 and 2014, the interoperability directive was amended three times:

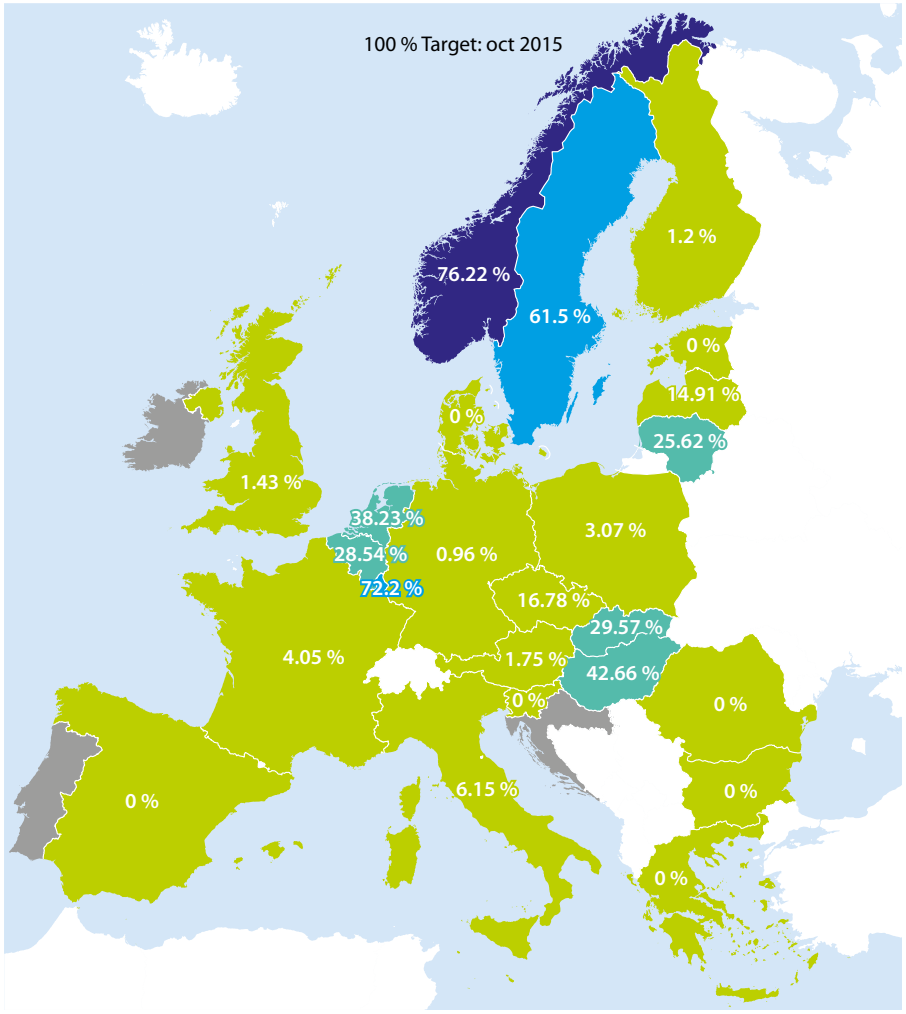
- Commission Directive 2013/9/EU of 11 March 2013 amending Annex III. It adds the essential requirement 'accessibility' to facilitate access to persons with disabilities and persons with reduced mobility.
- Commission Directive 2014/38/EU of 10 March 2014 amending Annex III. It requires that the design and operation of the rail system must not lead to an inadmissible level of noise.
- Commission Directive 2014/106/EU of 5 December 2014 amending Annex V and Annex VI. It deals with the verification of subsystems by notified and designated bodies.

Train drivers directive

The train drivers directive was amended in 2014. This amendment relates to general professional knowledge and medical and licence requirements. It also introduces the Common European Framework of Reference for Languages (CEFR) as standard for language tests where drivers have to communicate in a foreign language and it sets out more detailed requirements for general professional knowledge.

Figure 1 on the opposite side shows the percentage of train drivers holding a European licence accoring to the train drivers directive in 2013.

Figure 1 — Percentage of train drivers holding a European licence



Total number of European train drivers with EC licenses: 20 063

Technical specificagions for interoperability (TSIs)

TSIs harmonise by law all aspects which are needed for interoperability. The full potential of interoperability will be achieved when:

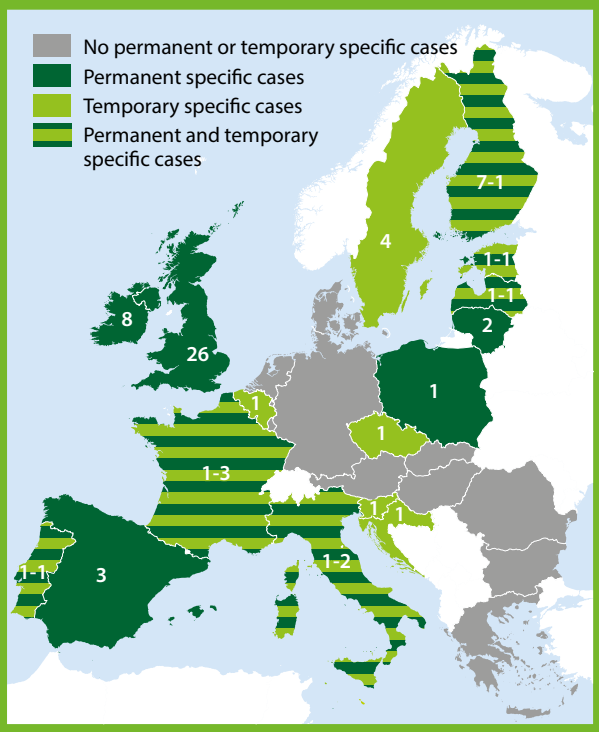
- all interoperability-relevant technical aspects are harmonised in TSIs;
- all national technical rules covering aspects harmonised in the TSIs are withdrawn; and
- all physical assets (e.g. vehicles, fixed installations) and procedures (e.g. operating rules) comply with the target systems defined by the TSIs.

In accordance with Article 17(3) of the interoperability directive, interoperability-relevant national technical rules are therefore only needed and allowed, when they refer to:

- **open points;**
- **specific cases;**
- **legacy systems,** such as Class B CCS systems;
- **derogations** if Articles 9 and 20 of the interoperability directive apply.

The Agency is gradually closing the last open points in TSIs, and the Member States should progressively remove their temporary specific cases and provide the Agency with the specifications of their permanent specific cases for inclusion in the TSIs.

Figure 2 — Remaining specific cases in the LOC&PAS TSI



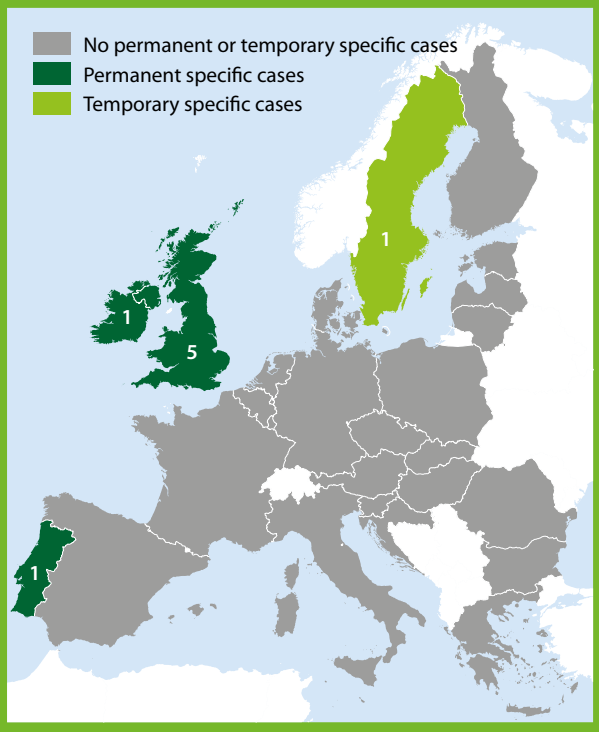
LOC&PAS TSI

On 18 November 2014 the first merged TSI relating to the 'rolling stock — locomotives and passenger rolling stock' (LOC&PAS) subsystem of the rail system in the European Union was published.

This revised TSI was the result of the merging of the two TSIs on locomotives and passenger rolling stock for high speed and for conventional rail. This TSI also applies to the entire EU railway system, including the 1 520 mm track gauge network.

There are still nine open points and a number of specific cases (see Figure 2 on the left).

Figure 3 — Remaining specific cases in the WAG TSI



WAG TSI

The wagon (WAG) TSI has been applicable since 1 January 2014 as Commission Regulation (EU) No 321/2013 ([1]) and amended once. This amendment clarifies unclear provisions and updates references. At the same time, it amends service brake and parking brake details as well as wheel slide protection parameters.

There are three remaining open points in the revised wagon TSI and eight specific cases.

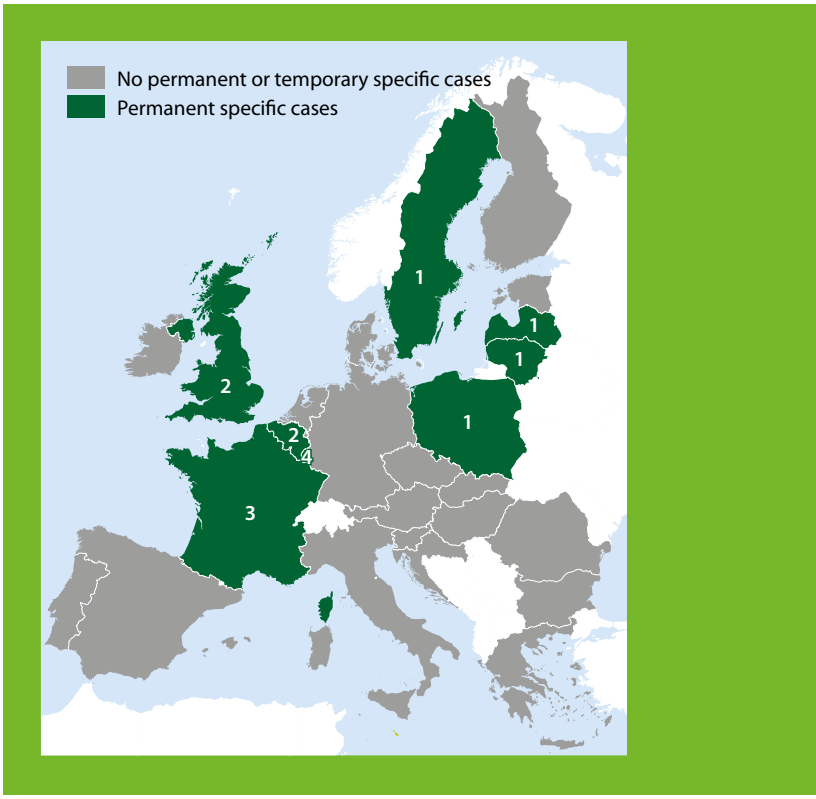
([1]) OJ L 104, 12.4.2013, pp. 1-56.

CCS TSI

The control command and signalling (CCS) TSI was revised and entered into force on 1 January 2013. The main features of the revised CCS TSI are: Two sets of specifications for the implementation of the European Train Control System (ETCS) are permitted. This ensures the protection of investments already done, while introducing additional functionalities.

There are presently 11 open points left, the specific cases are shown in Figure 4 on the right hand side.

Figure 4 — Remaining specific cases in the CCS TSI



NOI TSI

The revised noise (NOI) TSI is the result of merging the specifications of the conventional and high speed rail system and applies to the entire European Union's rail system. The revised TSI serves interoperability and defines broadly reduced and well-balanced limit values in order to contribute to the confinement of noise emission close to the infrastructure and in the driver's cabin while maintaining the competitiveness of the European railways.

This TSI contains six specific cases and no open points.

All specific cases set out in the NOI TSI allow for higher noise limit values than those defined in the core TSI. Therefore, none of these specific cases limit interoperability.

Figure 5 — Remaining specific cases in the NOI TSI

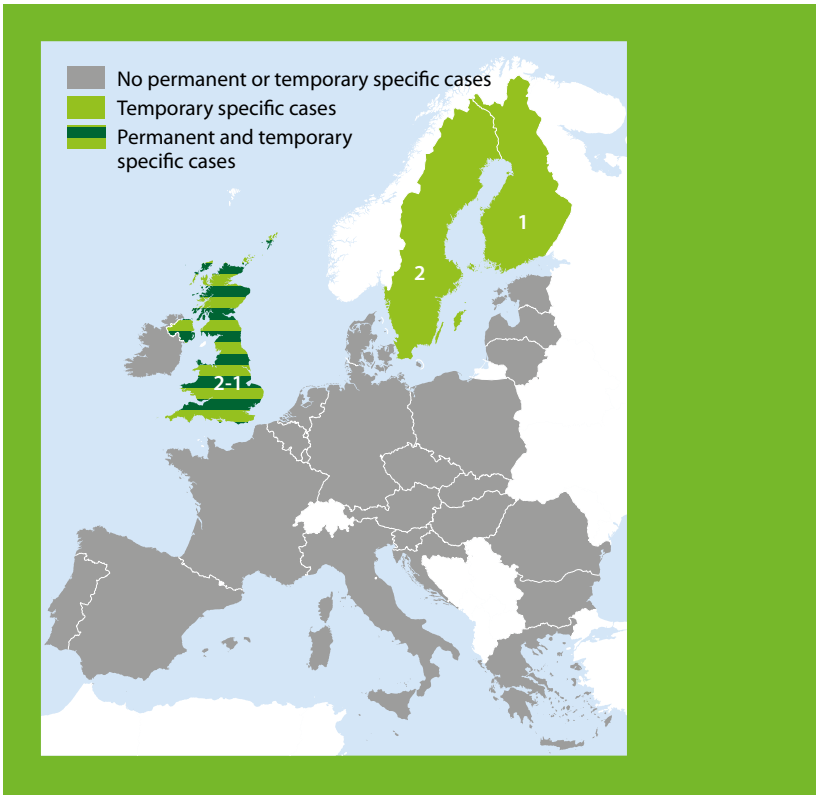
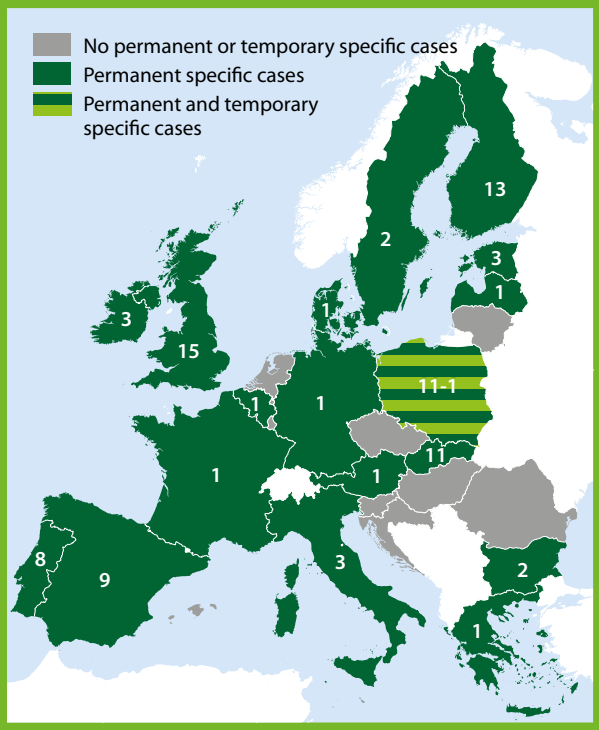


Figure 6 — Remaining specific cases in the INF TSI

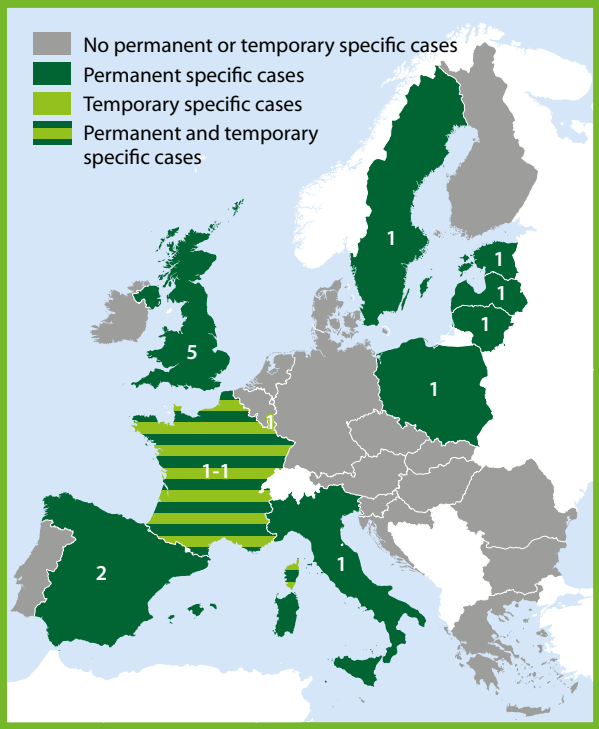


INF TSI

The new infrastructure (INF) TSI has been applicable since 1 January 2015 and is the result of merging the Conventional (2011) and high speed (2008) infrastructure TSIs. It provides requirements for the different track gauge systems. At present, there are still nine open points in the INF TSI.

Figure 6 to the left shows the number of specific cases, distributed per country, which are relevant for the INF TSI.

Figure 7 — Remaining specific cases in the ENE TSI



ENE TSI

The first merged energy (ENE) TSI entered into force on 1 January 2015. It resulted from merging the first Conventional Rail ENE TSI and the second High Speed ENE TSI. The requirements set out in the TSI include only those elements which are important from the interoperability point of view, for the compatibility of the energy subsystem, as defined in the interoperability directive, with a TSI-compliant rail vehicle.

The open point is expected to be closed at the end of 2016 or beginning of 2017.

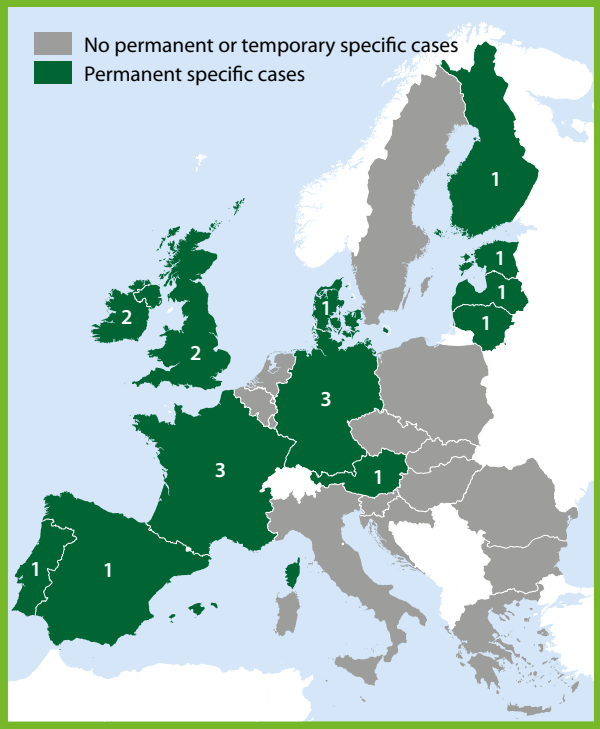
PRM TSI

The persons with reduced mobility (PRM) TSI is a transversal specification applicable to the infrastructure and rolling stock subsystems.

The major revision for this subsystem consisted of the removal of most of the detailed railway specific requirements, replaced by functional requirements that can be fulfilled by international or even national standards.

There are no open points in the PRM TSI. Most of the remaining specific cases come from the wide variety of platform heights existing in Europe.

Figure 8 — Remaining specific cases in the PRM TSI



SRT TSI

Commission Regulation (EU) No 1303/2014 ([1]) of 18 November 2014 is a transversal TSI relating to safety in railway tunnels (SRT).

It sets out more specific rules for safe areas and introduces the concept of firefighting points in order to cover the case of very long tunnels. Regarding rolling stock, the SRT TSI applies to all rolling stock which are in the scope of the LOC&PAS TSI. It contains two specific cases and one open point (see Figure 9 on the right hand side).

For the subsystems Energy and Infrastructure, the SRT TSI contains neither open points nor specific cases.

Figure 9 — Remaining specific cases in the SRT TSI

([1]) OJ L 356, 12.12.2014, pp. 394-420.

OPE TSI

The TSI operation and traffic management (OPE) describes 'the procedures and related equipment enabling a coherent operation of the various structural subsystems … including in particular train composition and train driving, traffic planning and management'.

The main change of the OPE TSI was the merger of the high speed and the conventional OPE TSI into one TSI and the extension of scope to the complete operational network.

TAP TSI

The telematics applications for passenger service (TAP) TSI regulation describes within the pre-, during- and after-journey phases the passenger data exchange provisions for the railway undertakings, infrastructure managers and ticket vendors concerning timetable information, tariff information, availability and booking (e.g. for seats or berths), ticketing and journey information (such as delays, re-routing, etc.).

The TAP TSI contains six open points, but does not contain any specific cases.

Currently the TAP TSI is in the implementation phase.

TAF TSI

The purpose of the telematics applications for freight service (TAF) TSI regulation is to ensure the efficient interchange of information by setting up the relevant technical framework. It covers the applications for freight services and the management of connections with other modes of transport. This means that that the TAF TSI, in addition to the pure operation of trains, also addresses the transport services of an RU.

The TAF TSI neither contains open points nor specific cases.

Currently the TAF TSI is in the implementation phase. For details please check the Agency's website.

Authorisation for placing vehicles in service

The trends in 2013 and 2014 indicate the impact of the recession starting with the financial crisis in 2008. The more recent fall in the number of vehicles being authorised are thought to be related to incomplete data and the longer-term impacts regarding investments in new rolling stock.

If railway freight wagons are excluded, then we see a more stable long-term development regarding authorisations of new rolling stock. This is shown in Figure 11 below. It is worth noting the steady increase from 2012 to 2014 regarding the number of authorisations given for new locomotives.

Figure 10 — Total number of authorised new vehicles

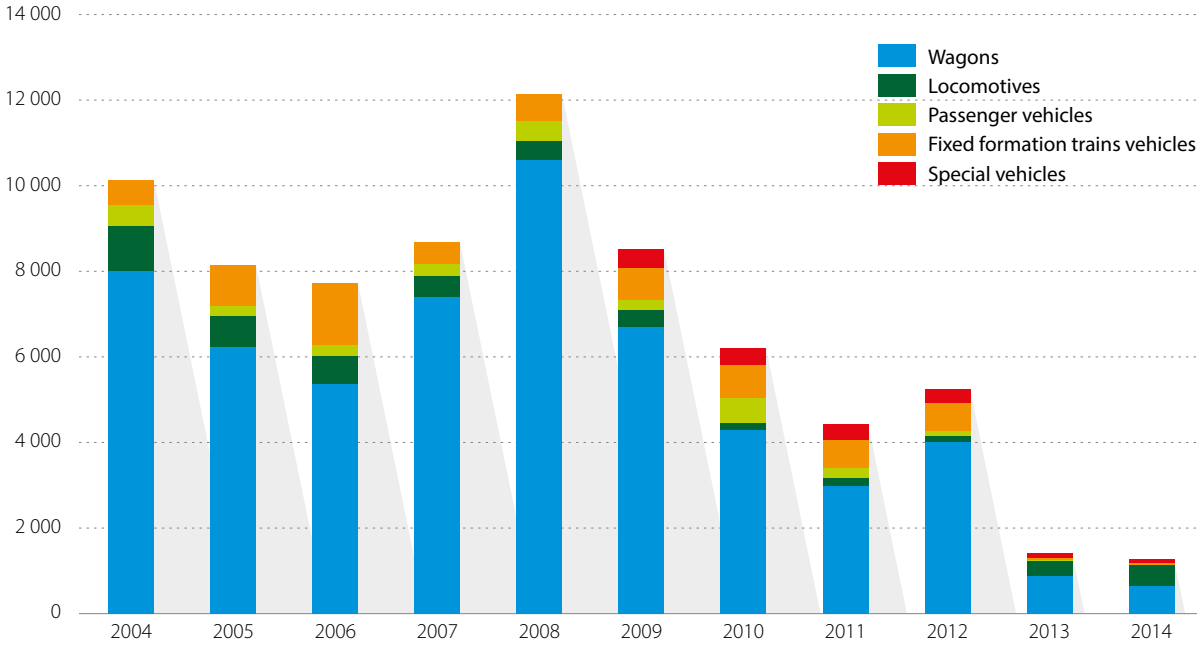
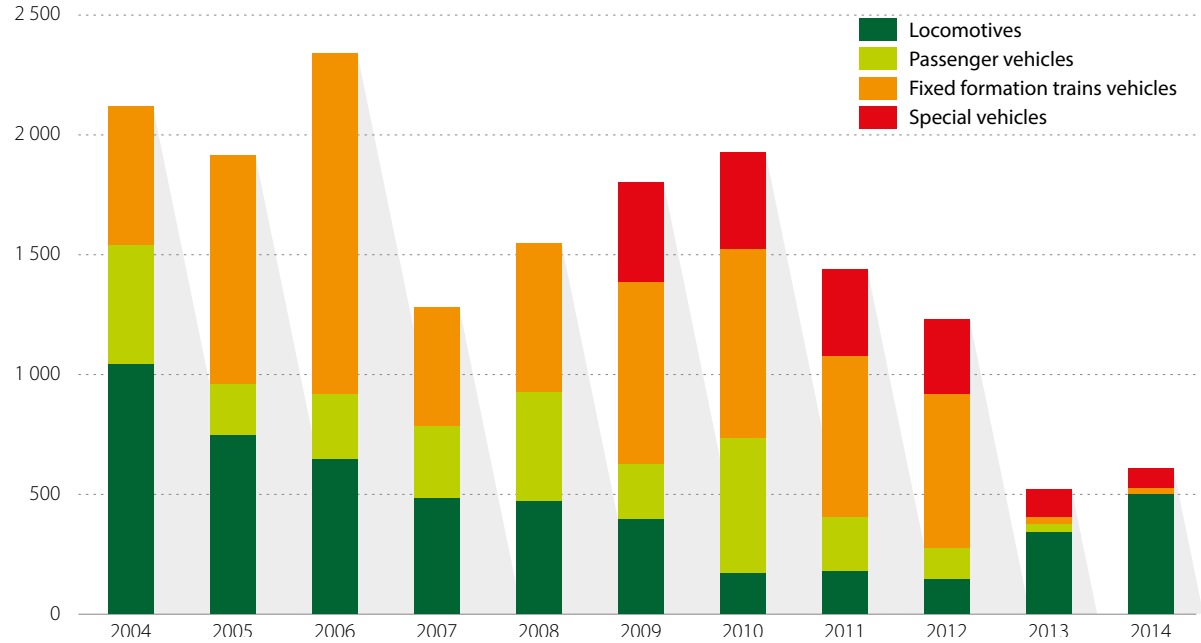


Figure 11 — Total number of authorised new vehicles without wagons



Interoperability registers

RINF

The register of infrastructure (RINF) is to provide transparency on the characteristics of the European Union railway network and allowing in the future preliminary compatibility checks to be executed.

During 2014, the Agency has been developing and adapting the specifications of the RINF common user interface (RINF CUI) to facilitate the collection and preparation of data at a national level.

ECVVR

The European Centralised Virtual Vehicle Register (ECVVR) consists of the national vehicle registers (NVR) in the Member States and the Virtual Vehicle Register (VVR), a search engine hosted by the Agency. It provides administrative information (e.g. authorisation data, keeper, owner, entity in charge of maintenance ECM) on vehicles placed into service on the European Union railway network.

In the reporting period, the Agency supported Member States whose NVRs were not yet connected.

ERATV

The European Register of Authorised Types of Vehicles (ERATV) records the type authorisations issued by the Member States.

ERATV provides for each authorised type of vehicle the main technical characteristics, the conformity with the TSIs and the data concerning the type authorisation.

During the reporting period, the Agency supported the National Railway Safety Authorities in the population of ERATV.

ERATV is in operation since January 2013.

VKMR

The Vehicle Keeper Marking Register provides the unique VKM and the company name of keepers (EU/OTIF). Since May 2014 a joint OTIF/EU VKM register is hosted by the Agency and provides the VKM details in four languages (English, French, German and Russian). VKMR has been published on the Agency's website since January 2010.

ERADIS

The European Railway Agency Database of Interoperability and Safety (ERADIS) is used for the collection and publishing of different documents concerning safety and interoperability.

During the reporting period, the Agency supported Member States in the population of Eradis. Eradis is accessible since 2007; the data in Eradis is publicly available.

Notified bodies

An applicant (e.g. manufacturer) can only place a product on the EU market when it meets all the applicable legislative requirements. The TSI-conformity is assessed by notified bodies. This conformity assessment includes testing, inspection and certification. The procedure for each product is specified in the applicable product legislation, i.e. the interoperability directive in the case of railways.

According to the information collected in May 2014, there were 58 notified bodies in Europe. Since 2014, the Agency has been working on a harmonised accreditation scheme for the notified bodies.

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Publications Office

Print ISBN 978-92-9205-046-7 ISSN 1977-4370 doi:10.2821/960031 TR-AE-16-001-EN-C
PDF ISBN 978-92-9205-045-0 ISSN 2467-2238 doi:10.2821/90831 TR-AE-16-001-EN-N