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COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the documents

Proposal for a Regulation of the European Parliament and of the Council on the European Union Agency for Railways and repealing Regulation (EC) No 881/2004

Proposal for a Directive of the European Parliament and of the Council on the interoperability of the rail system within the European Union (Recast)

Proposal for a Directive of the European Parliament and of the Council on railway safety (Recast)

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1 INTRODUCTION

In its 2011 White Paper on transport policy adopted on 28 March 2011 (hereinafter the 2011 White Paper), the Commission announced its vision to establish a Single European Railway Area and clarified that this objective implies creating an internal railway market where European railway undertakings can provide services without unnecessary technical and administrative barriers.¹

Additionally, the European Council conclusions of January 2012 highlight the importance of unleashing the growth-creating potential of a fully integrated Single Market, including measures with regard to network industries.² Furthermore, the Commission Communication on Action for Stability, Growth and Jobs adopted on 30 May 2012 stresses the importance of further reducing the regulatory burden and barriers to entry in the rail sector, making country-specific recommendations to that aim.³ In the same manner, on 6th June 2012 the Commission adopted the Communication on strengthening the governance of the single market, which also stresses the importance of the transport sector.⁴

The EU railway market has seen massive changes in the recent decade. They were gradually introduced by three legislative "railway packages" (with some accompanying acts) intended to open up national markets and make railways more competitive and interoperable at the EU level, while maintaining a high level of safety. The most recent development is the adoption (passed 2nd reading in Parliament in July, to be adopted by the Council in December 2012) of the recast of the 1st Railway Package, which, in addition to legislative simplification and consolidation, clarifies certain provisions on competition issues, regulatory oversight and financial architecture of railway operations⁵.

Despite the considerable development of the 'EU acquis' establishing an internal market for rail transport services, the modal share of rail in intra-EU transport has remained modest. Therefore the Commission has planned to put forward with the 4th Railway Package (cf. Annex I for further details) in order to enhance the quality and efficiency of rail services by removing the remaining obstacles of different natures, and fostering thereby the performance and competitiveness of the railway sector. As announced by the 2011 White Paper, these issues will be addressed by different initiatives:

- **removing remaining administrative and technical barriers**, in particular by establishing a common approach to safety and interoperability rules to increase economies of scale for railway undertakings active across the EU, decreasing administrative costs and accelerating administrative procedures, as well as to avoiding disguised discrimination;

¹ White Paper Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system (COM/2011/0144 final)

² http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/127599.pdf

³ COM (2012) 299 final

⁴ COM(2012) 259 final

⁵

<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/12/520&format=HTML&aged=0&language=EN&guiLanguage=en>

- **opening the domestic rail passenger market**, providing open access to lines, including those under public service obligations (PSOs)⁶ to competition (completing the process of market opening);
- **optimising the governance of infrastructure management**, in particular by ensuring that the infrastructure manager performs a consistent set of functions that optimises the use of infrastructure capacity and guarantees non-discriminatory access to the infrastructure and rail related services.

This impact assessment focuses on the first point. However at the same time expected synergies from other elements of the 4th Railway Package would reinforce the overall outcome, for example the initiative on infrastructure governance will help to reduce discrimination in relation to access to infrastructure, thus the access barriers for new entrants would be lowered.

2 PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

This impact assessment (IA) has been prepared by DG MOVE to support legislative proposals on improving efficiency and competitiveness of the Single European Railway Area in the field of interoperability and safety, namely revision of the Railway Safety Directive 2004/49/EC⁷, Interoperability Directive 2008/57/EC⁸ and ERA regulation (EC) No 881/2004⁹ (Agenda Planning numbers 2011/MOVE/011, 2012/MOVE/031, 2012/MOVE/033). The impact assessment road map has been published at the website of the Commission¹⁰.

2.1 Organisation and timing

An Impact Assessment Steering Group (IASG) was created in June 2011. All DGs were invited to participate, however the main interested services are DGs ENTR, EMPL, SG, SJ, HR, RTD, BUDG, REGIO, ENER and ELARG.

The IASG met six times.¹¹ Last IASG meeting was held on 13 July 2012 and the IASG members were given the opportunity to make final comments until 20 July.

2.2 Consultation and expertise

The Commission services have discussed the developments of the Single European Railway Area with sector representatives on an on-going basis. In 2010-2011 it conducted also an ex post evaluation of Regulation 881/2004 establishing the Agency and its functioning¹². In order to support the Commission in the IA process, an external consultant was tasked to prepare an IA support study¹³ and to undertake a targeted consultation of stakeholders.

⁶ List of abbreviations with explanations is provided in Annex IX.

⁷ Directive 2008/110/EC of the European Parliament and of the Council of 16 December 2008 amending Directive 2004/49/EC on safety on the Community's railways (Railway Safety Directive)

⁸ Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community (Recast)

⁹ Regulation (EC) No 1335/2008 of the European Parliament and of the Council of 16 December 2008 amending Regulation (EC) No 881/2004 establishing a European Railway Agency (Agency Regulation)

¹⁰ http://ec.europa.eu/governance/impact/planned_ia/docs/2011_move_011_railway_agency_en.pdf
¹¹ 5 July 2011, 13 October 2011, 28 November 2011, 28 February 2012, 27 April 2012, 13 July 2012

¹² http://ec.europa.eu/transport/evaluations/doc/2011_era-evaluation-881-2004.pdf

¹³ [reference will be added after publication]

The targeted consultation of interested parties started on 18 November 2011 with an internet survey which finished on 30 December 2011. It was followed by interviews with the most significant stakeholders¹⁴ and a stakeholder workshop in February 2012.

Given the technical nature of the initiative, no open public consultation was carried out. However, the Commission has taken care that all interested parties and Member States have been consulted in due time and that discussions have covered all the key elements of the initiative. Therefore the minimum consultation standards of the Commission have been met.

Summary of main conclusions

In general stakeholders agreed with the initial set of problems as proposed by the Commission¹⁵. The results of the consultation show that there is partial consensus on the objectives and possible new roles of the Agency. It seems evident that currently there is no support for ERA's involvement in the market access sphere, thus transfer of competences from the Regulatory Bodies to the Agency is excluded at this stage and will not be analysed in this impact assessment. On the other hand, there is support for higher involvement of ERA in the functioning of the NSAs and, to lesser extent, also of the Notified Bodies. In particular, the engagement of the Agency in the processes of granting of safety certificates and vehicle authorisations – currently performed by the NSAs – was supported.

All the top-up measures complementing the options on the institutional role of ERA (such as dissemination of railway-related information and training, support in implementing the EU legislation and migrating from national systems to the system of EU rules) were evaluated positively by the stakeholders.

Annex V provides more information on stakeholder consultation.

2.3 Consultation of the Impact Assessment Board (IAB)

This impact assessment was reviewed by the Commission IAB on 5 September 2012. Based on the Board's recommendations, the impact assessment has been revised according to the following lines:

- more concrete evidence and statistical data supporting the argument that the existing system works in a sub-optimal manner were added or moved from the Annexes into the body of the text (e.g. costs and timescales of procedures in different Member States, comparative statistics per MS relating to penetration by new entrants, number of persons working in different national institutions, number of national rules, limited monitoring responsibilities of ERA);
- expected synergies from other elements of the 4th Railway Package were added and indirect impacts clarified;
- the core measures common to options 2-5 were described in more detail and clarified regarding their differentiation; option 6, its individual measures and the link with other options were better explained;
- likely implementation problems of the preferred option were assessed and added (in Annex VIII);

¹⁴ For the list of stakeholders consulted – see Annex V.

¹⁵ For further details see Figure 2-2: Stakeholder views on different problem elements.

- the methodology regarding the assessment of impacts was clarified and better explained; its logic was reinforced by better cross-referencing;
- calculation regarding staffing needs for the institutions concerned under different options was explained;
- better distinction between administrative costs for economic actors (railway operators) and the cost of public administration (national authorities, ERA and the Commission) was made;
- the summary and overview tables in section 7 were explained and cross-references with previous sections added;
- the relevant monitoring indicators were added by linking them with existing targets for operational objectives (number of national rules, cost and duration of certification and authorisation procedures);
- indication that the founding ERA Regulation will be revised to include an obligation to undertake regular evaluations of the functioning and delivery of the Agency by the Commission was added;
- information on stakeholders' consultation was improved by adding specific views of different stakeholder groups, including national authorities.

3 PROBLEM DEFINITION

3.1 Description of the current framework

The legal framework

Over the years national rail networks have developed different technical specifications for infrastructure and rolling stock¹⁶ making it more difficult and more costly to run a train from one country to another. Also different national rules – often overly complicated and not transparent – act as a major hindrance for new railway companies looking to establish themselves on the market, or indeed for any company wanting to use rail infrastructure in different countries.

The creation of an integrated European railway area, which intensified with the adoption of the second railway package in 2004, called for harmonised safety rules and improved "interoperability"¹⁷ – or technical compatibility – of infrastructure, rolling stock, signalling and other part of the rail system, as well as less complex procedures for approving rolling stock for use across the European rail network. Specific EU legislation exists to promote consistent approach to interoperability and safety and overcome national differences.

The main legislative act in force in the field of safety is the railway Safety Directive and in the field of interoperability - a recast of the Interoperability Directive.

The Safety Directive applies to the railway system of Member States and covers safety requirements for the system as a whole, including infrastructure and traffic management,

¹⁶ Resulting, inter alia, in different gauge widths, electrification standards, and safety and signalling systems

¹⁷ Interoperability is the ability of a rail system to allow the safe and uninterrupted movement of trains which accomplish the required levels of performance for these lines.

and the interaction between railway undertakings and infrastructure managers. In this respect, the Directive focuses on four major aspects:

- setting up, in each Member State, of an authority responsible for supervising safety;
- safety certificates delivered in Member States that are necessary for railway undertakings to be granted access to railway infrastructure;
- establishment of common safety indicators (CSIs) in order to assess that the system complies with the common safety targets (CSTs) and facilitate the monitoring of railway safety performance;
- definition of common rules for safety investigations.

The Interoperability Directive aims at accelerating integration of the EU rail network through increased technical harmonisation, guaranteeing a high level of safety. It establishes conditions to be fulfilled to achieve interoperability within the EU rail system at the design, construction, placing into service, upgrading, renewal, operation and maintenance stages. The gradual implementation of interoperability of the rail system is pursued through the harmonisation of technical standards. Thus this directive covers:

- essential requirements with regard to safety, reliability, human health, environmental protection and technical compatibility of the system;
- the technical specifications for interoperability (TSIs) adopted for each subsystem or part of subsystem pursuant to this directive;
- the corresponding European specifications.

The institutional framework

In order to ensure a safe and interoperable EU railway sector, the second railway package has created a decentralised system of railway authorities covering a number of railway institutions with different roles and responsibilities. It includes today:¹⁸

- the National Safety Authorities (NSAs), responsible, inter alia, for granting safety certificates for railway undertakings and safety authorisations for infrastructure managers, and authorising the placing in service of railway vehicles and subsystems¹⁹;
- the Notified Bodies (NoBos), responsible mainly for conformity assessment of rail vehicles and subsystems, after having verified their compliance with the relevant Technical Specifications for Interoperability (TSIs);
- the Designated Bodies (DeBos), responsible for conformity assessment in the case of national rules which are still applicable (TSI open points, specific cases, derogations);
- the National Investigation Bodies (NIB), responsible for investigating serious railway accidents;

¹⁸ A detailed description of the functioning of national institutions is provided in Annex III.

¹⁹ The system constituting the rail system may be broken down into the following subsystems, either: (a) structural areas (infrastructure, energy, control, command and signalling, rolling stock); (b) functional areas (traffic operation and management, maintenance, telematics applications for passenger and freight services).

- the Regulatory Bodies, responsible for ensuring a fair and non-discriminatory access to the rail network and services.

In addition, the ERA Regulation has established the European Railway Agency ('ERA' or the 'Agency'), which plays a central role in promoting interoperability and safety and harmonising technical specifications, a process in which cooperation between the above-mentioned institutions of EU Member States and rail stakeholders is essential. To this end, the activities performed by ERA aim at:

- developing, promoting and monitoring a common EU approach to safety management and governance across the Agency stakeholders.
- improving the interoperability of the European rail system by developing the conditions for the free and uninterrupted movement of trains through technical and operational harmonisation, including conditions for mutual acceptance of railway vehicles. To this end, ERA develops common technical specifications for interoperability (TSIs) and common safety methods and targets (CSMs and CSTs), working closely with stakeholders from the rail sector, national authorities, the EU institutions and other interested parties;

organising and facilitating the exchange of information within the railway sector by networking with national bodies, providing registers and databases, issuing reports and giving guidance on the implementation of the regulatory framework.

Notwithstanding its important role in creation of the European railway interoperability and safety legislation, it is, however, evident that currently ERA does not have any major control and oversight powers with regard to national railway authorities, infrastructure managers or market players. Its monitoring responsibilities are practically limited to monitoring of safety performance (through collecting and publishing common safety indicators and facilitating cooperation between the NSAs and NIBs) and of interoperability (through publication of regular reports on progress with interoperability in the EU).

3.2 Description of the problem

It must be stressed that, following the introduction of the respective railway packages, the level of railway safety (measured by indicators like number of accidents and fatalities) has gradually increased. Therefore, safety levels, as such, are not addressed by this IA.

However, the Commission has received frequent complaints that the system of railway authorities described above, while intended to cater for the still remaining technical differences between national railway systems, incorporates barriers of different natures that contribute, among other reasons, to the low degree of efficiency and competitiveness of rail sector as illustrated by the problem tree of the 4th Railway Package. While in some Member States the national authorities function in general efficiently, in others the procedures which they manage are long and costly; this is partly linked with their inadequate resources. At the same time, the interoperability and safety requirements, which in principle should have been aligned by common EU rules, still diverge significantly at the national level. The latter obstacles hamper in particular the processes leading to the delivery by NSAs of the safety certificates and the vehicle authorisations (see in this respect Annex III).

During evaluation of ERA and its founding Regulation (2010-2011), stakeholders expressed, in general, their support in relation to extension of competences of the Agency at

the expense of existing national institutions²⁰; this stemmed largely from their perception of ineffective functioning of the current model of the EU internal railway market.

Therefore, it can be claimed that the existing system works in a sub-optimal manner, and there is a room for improvement in particular regarding the operating conditions and administrative costs for railway undertakings; more evidence will be provided in the sections below.

The above is especially relevant for the freight transport. The rail freight market has been opened for a number of years²¹, and therefore the continuous relatively low level of competition, higher prices and market distortions could stem (together with other factors targeted by other 4th Package initiatives) also from technical and administrative barriers. Additionally, the new entrants are relatively more vulnerable to complexity and delays in procedures, since their human and financial resources are often limited.

As indicated in section 1 above, the present IA report will focus on optimising administrative procedures and tackling various barriers, while ensuring that existing safety levels will not be altered.

3.2.1 Long and costly procedures

As illustrated in the box below, the stakeholders complained that the procedures foreseen under the current institutional set up, especially to obtain authorisation for a railway vehicle and safety certificate for railway undertaking, are costly and long. This constitutes an important factor hindering the development of the EU railway market and its efficient functioning.

Besides being complicated and slow, these procedures do not guarantee sufficient level of mutual recognition of safety certificates and vehicle authorisations. This negatively affects particularly new companies wishing to enter into the market, thus contributing to a low level of competition and lasting market distortions. Additionally, the range of fees differs significantly among Member States and can be very costly:

- a cost of a safety certificate may be from 0€ up to 70 000€²²;
- total costs for an additional vehicle authorisation can vary between 900 000€ up to 2 €M per locomotive type²³.

²⁰ Figure 9.1, page 136, ERA evaluation (http://ec.europa.eu/transport/evaluations/doc/2011_era-evaluation-881-2004.pdf)

²¹ In case of passenger railway market, for the time being only international traffic (relatively small in comparison with domestic traffic) is open to competition.

²² See Table III-2 in Annex III

²³ 2011 ERA Report on vehicle authorisation, p. 47 (www.era.europa.eu/Document-Register/Documents/Final%20report%20on%20vehicle%20authorisation%20%28part%201%29.pdf)

EXAMPLES:

The procedure to receive an authorisation for a railway vehicle can last up to 2 years and cost up to €6 million (in case of new locomotive authorisation in its first country). One stakeholder provided figures regarding the second authorisation of a locomotive equipped with ETCS (European Train Control System): procedural authorisation costs are equal to about 10% of costs of the locomotive per country; in the case where a locomotive is to be used in three Member States, the overall costs would increase by about 30% (without taking into account the costs of different ETCS systems to be installed). [source: IA support study of SDG, 2012]

The Safety Directive requires railway undertakings from January 1st 2011 to hold a safety certificate in order to be granted access to the railway infrastructure; the NSAs are responsible for issuing them. In one EU Member State, on December 1st 2010, an NSA handled only 114 out of 348 outstanding requests. Due to this delay a transitional arrangement had to be introduced that allows railway undertakings (RUs) to continue their operations if they had requested the new safety certificate before January 1st 2011. Additionally, RUs are required to pay the NSA for the cost of the approval process. Some RUs had to invest 2 man-years and to pay up to €70,000 for administrative and advisory costs. Representatives of RUs reported that these costs created a high market entry barrier in particular for small RUs. Stakeholders have also mentioned problems of the approach adopted by this NSA (very judicial in nature and not sufficiently focused on understanding whether technical details can be overcome in a simple manner) which is common in relation to vehicle authorisation process. In addition, many stakeholders have mentioned that they have not launched an appeal against the decisions of the NSA for fear of problems in future with other authorisations/certificates. [source: Case studies, IA support study of SDG, 2012]

An operator from one EU Member State has stated that it would have cost them approximately €30 million to get its high speed trains approved in another Member State, and so decided to abandon the authorisation process (one can assume, however, that this amount would probably include retrofitting of locomotives not compliant with the present TSIs). [source: Case studies, IA support study of SDG, 2012]

3.2.2 Access barriers, especially for new entrants

Besides the issue of inefficient administrative procedures, stakeholders complained that national railway authorities may use technical arguments and a legacy of diverging and not always transparent national rules as an access barrier for companies wishing to enter the railway market (new entrants). In this broad "new entrants" category the most potential can be unleashed from expected new cross-border operations, i.e. starting new railway operating in another Member State by a company already established elsewhere in the EU. Currently (2010), in case of rail freight the level of penetration by new entrants varies in Member States from 0 to 55%²⁴.

According to the results of the targeted consultation, new entrants may inter alia face discrimination from NSAs when applying for safety certificate or during vehicle authorisation processes.²⁵ Stakeholders reported more specifically that the processes leading to the delivery of safety certificate and vehicle authorisation are not sufficiently harmonised and transparent to prevent arbitrary and discriminative decisions by NSAs.

This situation poses a significant problem for those who would like to start offering railway services, either as a newly established company or as an existing company wishing to start its operation in another Member State.

²⁴ For full statistics see Annex II

²⁵ The most common problems in relation to safety certificates and vehicle authorisations include: not harmonised and transparent methods of delivery in order to avoid arbitrary decisions, lengthy procedures and discrimination, reluctance to accept authorisations given by the NSAs of other Member States

EXAMPLES:

The bureaucracy involved in the market entry process in one EU Member State was identified by a study of the Finnish Rail Administration (2009) as the main barrier for entry for new railway undertakings; this is also often the case in other Member States. The network statement²⁶ proves not helpful for new entrants, and the process for acquiring the necessary licences and permits requires a great deal of effort. It was reported that legally set periods for issuing certificates and authorisations are systematically circumvented by the NSA of this Member State through requests for additional documentations and tests. This can be at least partly attributed to budget constraints and understaffing of the NSA. In order to perform its duties more effectively, the NSA considers that it would need twice as many staff as is currently employed. [source: Case studies, IA support study of SDG, 2012]

Moreover, poor quality of national law and unclear system of rules act as barriers for new entrants. In one Member State, both the NSA and the railway undertaking indicated this was an issue, as the translation of EU legislation is generally poor and leaves substantial gaps. The railway undertaking also stated that there are diverging interpretations of the same rule from different institutions, and that they incur loss of time and money, due to the lack of clarity and consistency of rules and interpretations generated by the lack of clarity and gaps left in domestic legislation. [source: Case studies, IA support study of SDG, 2012]

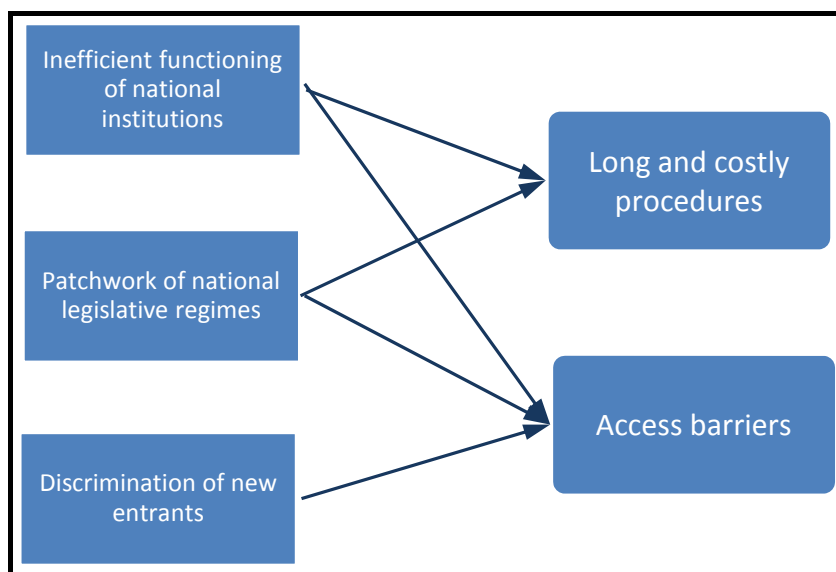
In 2010-2011 a well-known case arose concerning authorisation of rolling stock of a new entrant in one Member State. A new company wanted to enter the market using spare Class 66 locomotives from their operations elsewhere. The NSA of the Member State in question refused to accept the locomotives on the basis of a safety rule which required the driver's seat to be on the right side of the cab (the UK 66s have the driver's seat on the left). The railway undertaking resorted to a complaint to the European Commission. The NSA abandoned its position after the European Commission, following a technical opinion from ERA, issued a decision refusing the draft safety rule and instructing the NSA to accept the locomotives. The Commission pointed out that, since the class 66 locomotive was already approved for use in the UK and in France, then, per Directive 2008/57/EC on Interoperability, there should be no reason to decline approval for its use in another Member State. [source: Case studies, IA support study of SDG, 2012; minutes of the Railway Safety and Interoperability Committee]

²⁶ Directive 2001/14/EC describes the obligation for each rail Infrastructure Manager to publish a Network Statement. It presents information on rail network's infrastructure, in particular on commercial and legal access conditions. Network Statements aim to provide all train operators wishing to operate services on a given rail network with comprehensive, up-to-date and relevant information on a fair and non-discriminatory basis.

3.3 The problem drivers

The problem tree below shows the root causes of problems described above.

Figure 3-1: Problems and drivers



3.3.1 Ineffective functioning of national railway institutions

This concerns predominantly the NSAs and NoBos.

As described in the ERA Interoperability Report²⁷, differences in size of NSAs may reflect their different responsibilities, and the size of the respective railways. Number of staff involved in interoperability issues varies from 1 person in case of some smaller Member States up to 162 in Germany (data from 2010). However, the sheer size of the railway market in a given country cannot alone explain these huge differences; in some cases the NSAs seem not to effectively perform their tasks due to insufficient staffing.

Other issues of concern for NSAs are the independence of decision making staff and their level of technical capability. Sometimes large part of technical staff is on secondment from incumbent operator and some stakeholders have questioned whether this can compromise their independence. Similar observations can be found in a study commissioned by the European Railway Agency²⁸: different NSAs have different approaches regarding two crucial processes, the issuing of safety certificates and vehicle authorisations. This is determined either by: divergent interpretation of EU legislation or by different operating approaches, technical capabilities and the amount of resources dedicated to these activities.

The IA support study has found that some of the authorities described in section 3.1, and the NSAs in particular, may not be properly equipped to face the growing tasks. This includes insufficient human and financial resources and, occasionally, lack of enforcement powers.

The NoBos are the first level of checking technical compliance of interoperability constituents and railway sub-systems, especially crucial in the European Rail Traffic

²⁷ European Railway Agency Interoperability Report 2011 <http://www.era.europa.eu/Document-Register/Documents/Final%20report%20on%20vehicle%20authorisation%2028part%201%29.pdf>

²⁸ http://www.era.europa.eu/Document-Register/Documents/development_of_a_migration_strategy_towards_a_single_safety_certificate.doc

Management System (ERTMS)²⁹ field. NoBos are not present in all Member States and competition between them is on a regional rather than a European scale. Even if Directive 2008/57 defines minimum criteria for Member States when notifying the NoBos, their operation and functioning differ due to diverging national backgrounds and a lack of detailed accreditation criteria.

Given that the quality of work of some NoBos has been questioned by NSAs, the validity of their certificates is not recognised; this is especially problematic in relation to ERTMS. As a consequence the NSAs require the verifications to be repeated, contrary to Articles 11 and 16 of Directive 2008/57/EC.

During stakeholder consultation, 23% respondents indicated that NSAs operate 'very or rather ineffectively' and around 40% rated them as 'neither efficient nor inefficient'. Furthermore, 63% agreed that there is a lack of sufficient financial or human resources in case of NSAs, and 34% in case of NoBos. In addition, 43% agreed that the NSAs are insufficiently independent of infrastructure managers, the incumbent railway undertaking, the ministry and/or other actors, which can have a negative impact on the efficiency and impartiality of these authorities.

Sub-optimal operation of the national authorities has a direct negative impact on the smooth functioning of the integrated EU railway system resulting in:

- longer times to obtain vehicle authorisations and safety certificates, which drives up the costs for the sector, including the lost opportunity costs;
- access barriers.

EXAMPLES:

Capital costs immobilised due to long authorisation processes are very significant for the railway industry. One of the leading European train manufacturers estimates that these costs amount to more than €100 million per year for the concerned company. This can be attributed largely to ineffective functioning of national institutions, namely the NSAs. [source: information provided at UNIFE General Assembly in Copenhagen, 14 June 2012³⁰]

The NSA and Regulatory Body (one institution) of one EU Member State is heavily under-resourced financially, making it unable to attract sufficient staff with the right qualifications. This has a negative impact on its performance. As of 23/01/2012, its website showed 36 job adverts (out of a total of 180 Full Time Equivalent posts - 20% of the current workforce). Moreover, the poor situation of the NSA is even more apparent when figures on staff numbers and budget are compared with those of other regulatory bodies in this Member State. They show that, despite other regulatory bodies having similar remits in terms of scope (they are either market regulators or safety authorities, or both), their budgets are much higher than the one of the NSA. The most meaningful comparison can be made with the aviation market and safety regulator: its 2011 budget was almost 80% higher than the NSA's, with the aviation regulator employing 2.3 times as many employees as its railway counterpart in 2009. It must be noted that railway transport has a higher modal share than air transport in this Member State. [source: Case studies, IA support study of SDG, 2012]

²⁹ EU initiative to enhance cross-border interoperability and the procurement of signalling equipment by creating a single Europe-wide standard for train control and command systems; it comprises European Train Control System (ETCS), a standard for in-cab train control, and GSM-R, the GSM mobile communications standard for railway operations.

³⁰ <http://www.railwaygazette.com/nc/news/single-view/view/rolling-stock-acceptance-delays-the-centre-of-debate.html>

3.3.2 Discrimination against new entrants by national institutions

This problem driver predominantly concerns the NSAs. The current approach to safety certification and vehicle authorisation should in principle allow the free provision of rail services and circulation of trains across the EU. It is based on the principle of mutual acceptance of the Part A certificate³¹ regarding the safety management system, granted by individual NSAs to railway undertakings, and requires that NSAs work at similar level of performance. The effectiveness of this approach has recently been questioned by many stakeholders (especially new entrants) given the *de facto* reluctance of NSAs to accept Part A certificates granted by other NSAs. This leads to additional checks and increases time and cost burdens for rail operators.

The problem of possible discrimination can have both a national and cross border dimension when NSAs are sometimes more reluctant to grant the safety certificates and vehicle authorisations to new national or foreign entrants in comparison with granting them to a national incumbent railway company.

In addition, stakeholders claim that some NSAs adopt and impose on all operators the technical standards (rules) used by the incumbent and fail to consult all railway undertakings when making key decisions. They are also reported to lack independence. The latter is particularly the case for NSAs that are part of wider transport or railway authorities, which also include the Regulatory Body. In these circumstances, launching appeals against perceived misconducts and discriminations can be difficult and ineffective.

50% of the association representatives questioned during the stakeholder consultation responded that there is discrimination by NSAs, suggesting that this is an issue of concern.

A similar, but not such a common, situation may occur in relation to NoBos discriminating against some actors when it comes to the conformity assessment. Such discrimination can take a form of prolonging the procedure and/or refusing to issue the certificate without legitimate grounds.

EXAMPLES:

A new entrant on the market of an EU Member State has been seeking authorisation for passenger rolling stock for services that will commence in 2012. Following initial testing, the new entrant asked the NSA to be able to start carrying out authorisation testing for its new rolling stock. The NSA instructed the national infrastructure manager (IM) to provide the new entrant with appropriate paths to be able to carry out its testing programme. After a number of attempts at arranging these paths the IM formally refused to allow testing on its network. Subsequently the new entrant asked the Ministry of Transport to intervene, which led to the Ministry directing the IM to allow the new entrant to reserve and use paths on its network. It should be noted that many staff members of the NSA in this country are seconded and paid by the IM. [source: Case studies, IA support study of SDG, 2012]

In the NSA of an EU Member State about 50% of their technical staff (40 persons) are (in the 1st half of 2012) on secondment from the incumbent rail operator. This might give rise to concern about staff loyalties and impartiality. It should be also added that, according to a national law from 1997, the principal state railway undertaking has the role of a "delegated infrastructure manager" in relation to most functions of infrastructure management and maintenance. [source: Case studies, IA support study of SDG, 2012]

³¹ The safety certificate has two parts:

Part A: valid throughout Europe providing the type and extent of the operation is unchanged. NSAs are therefore required to accept Part A certificates issued by other Member State.

Part B: states the ability of the RU to comply with network rules applied in specific Member State. Therefore a RU can have a single Part A certificate but as many Part B certificates as the Member States in which it provides services.

The European Rail Freight Association (ERFA), in an open letter to the UK Parliament concerning the consultation process that preceded the Recast of the First Railway Directive raised the issue of possible discrimination against new entrants. It reported that “in some Member States, safety certification is abused as an instrument to foreclose the national market” (quoting the Poland Class 66 example) and that often “there is no appeal body to prevent Member States and their public authorities to abuse safety for anti-competitive purposes”. According to ERFA “in some Member States, the national flag carrier is even tolerated to operate without a valid safety certificate (e.g. Hungary) whilst new entrants are forced to go through lengthy and unclear safety certification processes”. Another issue claimed by this organisation is “the restriction of the safety certification for RUs to single or a restricted number of lines of the network (as it is the case with Belgium and France)”. [source: letter from ERFA to the House of Lords, 2009³²]

3.3.3 Patchwork of national regulatory regimes and rules

Railway undertakings operating in EU still face a patchwork of divergent national regulations and rules. On the one hand this stems from the legacy of historical national laws and rules, but on the other hand from divergent interpretation and transposition of the EU railway *acquis*.

Legacy of divergent national rail systems

Various national rail networks have grown and evolved heterogeneously over the past century and relevant national technical and safety rules were put in place when no relevant EU rules existed. Recital 21 of Directive 2008/57/EC states that “steps should be taken to avoid a situation where Member States adopt new national rules or undertake projects that increase the diversity of the present system.” However, experience demonstrates that national rules still represent an obstacle to interoperability within the Single European Railway Area as well as a complication for new entrants, especially from other Member States. In that sense, some of those rules can be regarded as discriminatory practice, leading to distortion of competition. As already mentioned it also happens that national authorities (predominantly NSAs) take decisions and introduce new technical and safety rules without proper consultation with all interested parties, especially without the participation of new entrants. According to the calculations of ERA, there are currently over 11 000 national rules in the EU³³.

In addition, as far as the vehicle authorisations issued by the NSAs are concerned, in a large majority of cases national legislations require additional authorisations.³⁴ In result, as the ERA “Report on Railway Vehicle Authorisation” (2011)³⁵ indicates, the total additional authorisation costs amount to around €1.6 million per vehicle.³⁶

³² Available at: <http://www.publications.parliament.uk/pa/ld200809/ldselect/ldcom/90/9032305.htm>

³³ Please see Annex IV for more details

³⁴ In this respect, a distinction can be made between the first and additional authorisations, as well as authorisations for TSI-conform and non-TSI-conform vehicles. In theory, the first authorisation shall be valid in all Member States without further checks for fully TSI-compliant vehicles running on TSI-conform networks. However, in practice very often additional authorisations are required, as allowed by the directive in force.

³⁵ <http://www.era.europa.eu/Document-Register/Documents/Final%20report%20on%20vehicle%20authorisation%20%28part%201%29.pdf>

³⁶ However significant variation across Member States and type of authorisation were encountered.

The Commission has been alerted many times by stakeholders, especially by recently established private companies, that action at EU level is needed in that regard³⁷. This is confirmed by the results of stakeholder consultation, where the majority of respondents agreed that "national technical and safety rules sometimes pose transparency and/or discrimination problems to new entrants".

EXAMPLES:

Following a major rail accident in 2009, the NSA of the country involved took a decision to introduce tougher inspections for the transport of dangerous goods; in particular, the decision required extraordinary checks on wagons fitted with wheel sets having the same characteristics of the ones involved in the accident, before allowing them to run on the network of the Member State in question. A railway undertaking from another Member State applied against this decision to a regional administrative court, being the imposition of an unplanned and unjust national rule, but the appeal was rejected. The NSA insisted that these norms were urgent and temporary, that they were not National Safety Rules and therefore there was no obligation of notification and consultation according to Directive 2004/49. [source: Case studies, IA support study of SDG, 2012]

A joint working group, including representatives from industry, operators and authorities, was created in a Member State to address problems with train authorisation and, as a result, a "Manual on Rolling Stock" was produced. However, this manual covers neither the entire national legal framework of the rolling stock authorisation process nor the entire framework of the European directive on interoperability on this issue (2008/57/EC) and hence is not compliant with it. For example, according to the manual, 16 different actors are involved in the authorisation process, although the interoperability directive envisages only 5 actors. Another difference is the project-based approach described in the manual, which involves the RU as a main actor in the authorisation process. In contrast, the Interoperability Directive describes a product-based approach, in which the manufacturer may place on the market already authorised design types. Even though the transparency of the whole process has increased with the manual, it is evident that different rules and regulatory regimes still overlap. [source: Case studies, IA support study of SDG, 2012]

Divergent interpretation of EU railway legislation by national authorities

The directives leave Member States with a room of manoeuvre to adapt EU laws to national circumstances. However, sometimes transposition and implementation deviates too much from what has been provided by EU law, and thus become counterproductive to the objectives of the common legislation. There are also cases where EU legislation has been applied erroneously. This makes the regulatory system of EU railways unnecessarily complex leading to negative market consequences, such as higher costs for manufacturers of equipment and railway undertakings, and fragmentation of markets.

According to the majority of stakeholders (62% of those expressing a view on this point) the divergent interpretation of EU railway directives hinders their proper implementation. The main victims of this situation are usually new entrants, both national and foreign, who can be confronted with unknown situations in each of the Member States where they wish to operate.

Moreover, the current level of monitoring and control of implementation of the interoperability and safety legislation by Member States is not sufficient. This is due to unwillingness of railway undertakings, especially new entrants, to lodge formal complaints against national authorities for fear of possible future retaliatory actions. This in turn leads

³⁷ For example, the problem was discussed by Rail Forum Europe's in its event on 5 July 2011, where policy action was called in order to enforce cross-acceptance of national rules with the final objective to eliminate them to the benefit of European rules.

to the Commission lacking a sufficient formal basis and/or evidence, and combined with the limited resources available, results in a sub-optimal level of European control.

Finally, the Member States themselves admit that there are sometimes problems with the implementation of the EU railway legislation, and have called the Commission to provide more assistance and support. Those problems of implementation may stem from lack of sufficient resources, defence of vested national interests by some companies and institutions, or the highly complex nature of some EU rules.

EXAMPLES:

Stakeholders have indicated (in a survey from late 2011 – beginning 2012) that railway laws in one Member State have been known to favour the incumbent undertakings. They have also indicated that their point of view is not taken into account during the consultation phase of the drafting of new legislation. Moreover, the NSA has indicated that the Ministry of Transport does not often take into account its opinions, as the procedure for drafting new laws does not require it to do so. This is despite the fact that the NSA is at the same time the regulatory body responsible for upholding and executing the law drafted by the Ministry. On top of this, the NSA is aware of many examples where the EU law was incorrectly transposed into national law or the national laws passed had unnecessarily strict regulations; it is, however, unable to revert this situation which is in hands of the competent Ministry. [source: Case studies, IA support study of SDG, 2012]

The Safety Directive of 2004 was transposed to national law of an EU Member State by a legal measure of 2007. This national legal measure excludes railway undertakings that are exclusively operating on regional networks from the obligation to obtain a safety certificate and de facto derogates regional lines from the scope of the Directive. Such interpretation is in contradiction with the letter and the spirit of the Directive; it might have arisen, though, due to erroneous translation of the Directive into national language. [source: Case studies, IA support study of SDG, 2012]

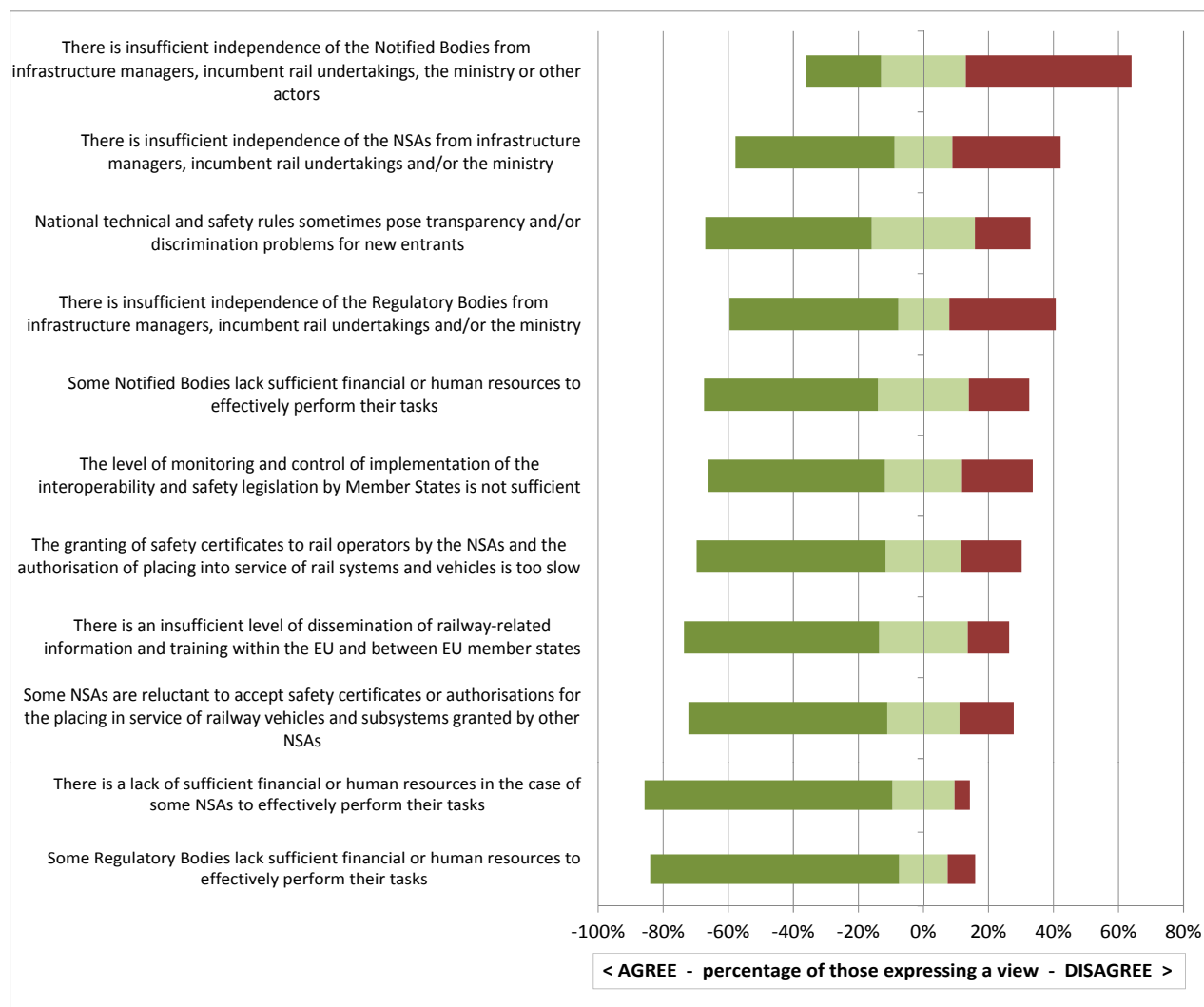
In a Member State, one railway undertaking signalled (during a survey from late 2011 – beginning 2012) major delays in gaining approval of a new locomotive class. Following contact between two of these locomotives and station platforms, the NSA refused to permit further test runs. However, the undertaking informed that survey work ascertained that the platforms did not comply with TSIs, despite the route being declared to be TSI-compliant. Furthermore, 90% of such platforms were allegedly found to be non-compliant. The issue of platform gauging was also reported to have been raised in an international forum by the locomotive manufacturer as being its biggest issue in getting approvals in this Member State. [source: Case studies, IA support study of SDG, 2012]

3.4 The Most affected stakeholders and their views on problem elements

This initiative affects the ERA, the Commission, national authorities (NSAs and NoBos) and railway stakeholders (predominantly railway undertakings, but also infrastructure managers and railway manufacturers). It indirectly impacts rail users, i.e. passengers and clients of freight services.

In general, the stakeholder consultation confirmed the elements of the problem drivers described above, as illustrated in the figure below.

Figure 3-2: Stakeholder views on different problem elements.



3.5 Baseline scenario

The baseline developments could affect the problem drivers identified above in following ways:

Inefficient functioning of national authorities and discrimination of new entrants

- the recent adoption of the recast of the 1st Rail Package will have a direct (although not immediate) positive effect on the independence and powers of Regulatory Bodies and should also decrease some barriers to access to rail related services for operators.
- improved staff resources in the NSAs, as at least 2 NSAs are currently addressing this issue through more vigorous recruitment. Other NSAs are likely to take similar measures in the coming years; this should have an impact on the time to market of operators as a result of relieving the bottlenecks at NSAs relating to staffing.

Patchwork of national legislative regimes

- the possibility of extension of the scope of the technical specification of interoperability (TSI) to the lines beyond the TEN-T network (but with no retroactive

clauses) would lead to further harmonisation of technical rules applying to networks and rail equipment; this in turn would mean that manufacturers will have less opportunity to customise their equipment, and costs for rail undertakings and local authorities can be assumed to decrease.

- an improved understanding of railway directives and regulations through the publication of Commission recommendations and guidelines e.g. the Commission Recommendation 2011/217/EU on the authorisation for the placing in service of structural subsystems and vehicles and its follow-up (which is currently being prepared by the Agency). These documents cover in greater detail the manner in which Member States should implement legislation.
- improved coherence of EU rail market as a result of continuing implementation of the Railway Directives. Some Member States have so far failed to properly implement the Safety and Interoperability Directives. For example, Germany has not yet transposed the Interoperability Directive of 2008, and is thus subject to an infringement proceeding. As part of this baseline scenario, the impact assessment calculations have assumed that all Member States will have implemented these Directives by 2015.
- the on-going process of reducing existing national rules should provide limited progress, especially in relation to vehicle *authorisation rules*. The Agency, based on the input from Member States, is identifying and classifying these rules with a view to their reduction within the EU-wide cross-acceptance process. A similar process, albeit at an early stage of development and of a non-binding character, is taking place in relation to national safety rules³⁸.

The above developments should provide some overall positive results. It is estimated that by 2025 the measures in place will close the gap between average *authorisation* costs and presumed minimum achievable authorisation costs³⁹ by over 30%⁴⁰. However the Commission is ready to consider further action to achieve even quicker and more profound progress, following the request of the stakeholders and the needs of railway sector.

3.6 Subsidiarity

3.6.1 Legal basis

Articles 58, 90 and 100 of the Treaty extend to railways the objectives of a genuine internal market in the context of a Common EU Transport Policy.

3.6.2 Necessity and EU added value

Actions by Member States alone cannot ensure the coherence of EU railway market and address the divergent interpretation of the legislation. The continuing application of national rules and sub-optimal functioning of national institutions, acting as barriers to the internal market, is in fact at the centre of the problem.

Action at EU level aims to ensure consistent implementation of the EU rail *acquis*, which should lead to creation of the Single European Railway Area with no unnecessary

³⁸ See Annex IV for more information regarding national rules

³⁹ See tables VII-5 – VII-8 in Annex VII

⁴⁰ See Section 4 in Annex VII

administrative and technical barriers. The aim is to enable railway undertakings to benefit from a single consolidated legislative framework and to face predictable business conditions throughout the EU.

4 OBJECTIVES

4.1 General objective

Eliminate existing administrative and technical barriers thereby enhancing the competitiveness of rail sector vis-à-vis other modes and developing further the Single European Rail Area.

The 2011 White Paper foresees progressive modal shift from the air and road sectors, so that by 2050 the majority of medium-distance passenger transport would be carried by rail. Similar goals are set for rail freight. This modal shift will contribute to the 20% reduction of GHG emissions foreseen in the Europe 2020 Agenda for smart, sustainable and innovative growth, and to the objective of reducing transport CO₂ emissions by 60% (compared to 1990 baseline) by 2050.

Together with the other initiatives of the 4th rail package, the present impact assessment shall identify the most suitable policy option(s) needed to reach the above-described general objective. To this aim, the general objective has been split down into specific and operational objectives.

4.2 Specific objectives

SO1: Facilitate entrance of new operators into market

SO2: Reduce administrative costs of railway undertakings

4.3 Operational objectives

OO1: Increase the efficiency of the safety certification and vehicle authorisation processes

OO2: Ensure non-discrimination in the granting and recognition of safety certificates and interoperability authorisations across the EU

OO3: Increase the coherence of the national legal frameworks, notably related to the safety and interoperability aspects of the internal market for railways

The operational objectives seek to tackle the problems created by the barriers in three areas:

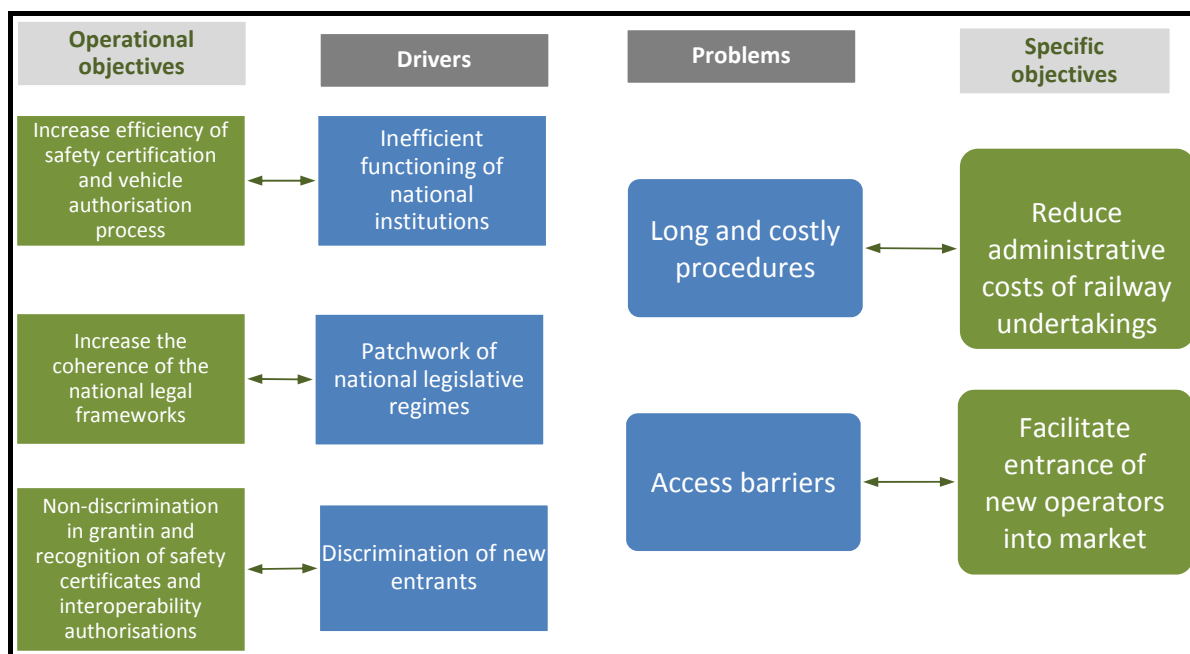
- economically - by increasing efficiency of the processes;
- institutionally - by ensuring non-discrimination; and
- legally - by ensuring that the framework is correct.

The specific objectives have been confirmed by the views of the stakeholders:

- OO1: 84% agreed that it is relevant;
- OO2: 88% agreed that it is relevant;
- OO3: 83% agreed that it is relevant.

The specific and operational objectives are linked to the identified problems and drivers as follows:

Figure 4-1: Links between the problems and objectives



The following targets have been set for the operational objectives:

- (a) to achieve, by 2025, the removal of all unnecessary national rules (cf. OO3)
- (b) to achieve, by 2025, a 20% reduction in the time to market for new railway undertakings above the baseline situation in 2025 (cf. OO1 and OO2)
- (c) to achieve, by 2025, a 20% reduction in the cost and duration of the authorisation of rolling stock above the baseline situation in 2025 (cf. OO1 and OO2)

The chosen target date of 2025 would be challenging but potentially achievable. Based on experiences with the recast of the first Railway Package, a target date of 2020 was discarded. The legislative process would take several years. The new provisions could enter into force in 2015 at the earliest, which if the 2020 target was used would effectively leave only 5 years for the provisions to be applied and to start having an effect on the market. As a result, a timeframe of 10 years from the entry into law date (2015 to 2025) seems more appropriate.

The targets to the operational objectives have been subject to consultation with the stakeholders⁴¹:

- 58% agreed that target (b) is relevant and 54% that it is achievable;
- 71% agreed that target (c) is relevant and 59% that it is achievable.

Stakeholders were originally also consulted on target "To achieve, by 2025, a 25% market share by new entrants in the rail freight market", but this target was removed due to

⁴¹ Initially the targets were set at the level of 25% improvement to ensure they were challenging but achievable. Following the analysis, it became evident that the impact of the baseline is already quite significant in terms of the cost to market for railway undertakings and more specifically the cost and timescales for vehicle authorisation. Therefore the second and third targets were modified and now they would achieve a 20% reduction over the baseline.

inconclusive support and its indirect link to the core problems. It was subsequently replaced by the current target (a) which became apparent during the interviews with stakeholders and is of high relevance to the problems identified.

5 POLICY OPTIONS

5.1 Identification of possible policy measures

The analysis of the Commission, the external consultants and the stakeholder consultation has enabled the identification of a broad set of measures having the potential to address the problem drivers described above. As the first step, stakeholders have assessed the individual policy measures. Subsequently, the measures underwent a qualitative review and assessment. In effect, a number of individual measures were discarded because:

- either they have received a decisively negative response from stakeholders,
- they are not implementable, or
- they can be/are being covered by other EU legislation.

The discarded measures include, inter alia, any extension of competences of ERA in the field of market oversight (task of Regulatory Bodies) and taking over the competences of the notified bodies.

At the end, any additional measures that were not foreseen in the survey, but that have been identified as result of stakeholder feedback, were added, and the measures that would be more appropriately considered collectively were combined.

The full list of measures and the details of the screening process are provided in Annex VI.

5.2 Description of the policy options

5.2.1 Construction and content of the policy options

Based on the screening of individual measures, the Commission has identified five policy packages (options 2-6), besides the baseline scenario. By construction, options 2-5 primarily concern the level of interaction between ERA and national authorities, and are all capable of tackling the three operational objectives set out in section 4. Option 6 is a set of horizontal measures, which are mostly independent of the interactions between ERA and national authorities, and can be applied on top of any of the options 2-5, with expected reinforcement of the overall final impact.

Impacts of the policy options are expected to be further reinforced by synergies with the other initiatives in the 4th Rail Package.

The policy options identified are the following:

Option 1: Baseline scenario (do nothing) – continuing on the path that is currently set out for the sector, including developments described in section 3.5

Option 2: Greater coordination role for the Agency in ensuring a consistent approach to certification of railway undertakings and vehicle authorisation

Option 3: ERA as a one-stop-shop, where the final decision on certification and authorisation remains with the NSAs, but ERA performs entry and exit checks of applications and of the decisions taken.

Option 4: ERA & NSAs share competencies, where the final decision on certification and authorisation is taken by the Agency.

Option 5: ERA takes over activities of NSAs in relation to certification of railway undertakings and vehicle authorisation.

Option 6: Horizontal measures, which includes other legislative and soft measures (beyond sharing the responsibilities between national authorities and ERA) that could be implemented in the domain of interoperability and safety to improve the competitiveness of the rail sector.

A table showing all the policy options together with individual policy measures is given below.

Table 5-1: Summary of policy options

Option 1	Option 2: Further ERA “Coordination” over NSAs	Option 3: ERA as One-Stop-Shop	Option 4: ERA & NSAs share competencies	Option 5: ERA takes over activities of NSAs
Baseline	Enhanced “coordination” and supervision role of ERA with respect to NSAs regarding granting of vehicle authorisations & safety certificates including ensuring their mutual recognition by national authorities.	ERA shares the competences with the NSAs regarding granting of safety certificates to the railway undertakings and vehicle authorisations (“one stop shop” concept): the decision is taken by NSA, ERA performs “entry and exit” checks of the application.	ERA shares the competences with the NSAs regarding granting of safety certificates & vehicle authorisations: a “one stop shop” concept with the NSAs (acting as regional offices of ERA) contributing but the final decision rests with ERA.	ERA takes over the competences of the NSAs regarding granting of certificates to the railway undertakings and vehicle authorisations.
		ERA as an appeal body for some decisions of NSAs		
		Migration to a single (common) safety certificate and single vehicle authorisation (setting up European “passport” for vehicles): <u>national authorities issue</u> single safety certificates & single vehicle authorisations (mutually recognised by definition)	Migration to a single (common) safety certificate and single vehicle authorisation (setting up European “passport” for vehicles): <u>ERA issues</u> single safety certificates and single vehicle authorisations (Appeals to ERA decisions are sent to a separate appeal body)	
Control by ERA over the functioning of NSAs (e.g. developing guidelines & auditing adherence to them).				
Enhanced “coordination” and supervision role of ERA with respect to NoBos regarding: type approval; rail vehicles certification; ERTMS certification and accreditation of NoBos.				
Option 6: horizontal measures (independent of the level of interaction ERA/national authorities)	Strengthened action by the Commission outside infringement procedure, notably on non-discrimination in the railway market			
	Amendment of the interoperability and safety directives to enable the adoption of implementing acts setting out common principles & practices for national authorities			
	Enhanced role of ERA in monitoring and control of implementation of national safety and interoperability legislation			
	Migrating from national technical & safety rules to a system of EU rules (requirement for national authorities to remove unnecessary rules and limiting their possibility of adopting new rules).			
	Enhanced role of ERA in dissemination of railway-related information and training.			
	Enhanced role of ERA in providing advice & support for Member States & other stakeholders in implementing legislation on safety & interoperability			
	Communication from the Commission regarding guidelines on the interpretation of specific EU laws & decisions (including TSIs)			
	Enhanced role of ERA in identifying potential spare parts to be standardised and coordination of industry activities in this area			

5.2.2 Core measures for options 2-5

Options 2-5 contain a number of core measures which concern similar issues, although with a differentiation according to magnitude of involvement of ERA. These measures address the challenges which were identified in the impact assessment process as crucial for the internal railway market and for the stakeholders, and at the same time have the biggest potential for cost savings. The core measures are:

- An enhanced role of ERA in the safety certification process, varying from ensuring mutual recognition of safety certificates by national authorities (option 2) up to issuing single safety certificates entirely by ERA (option 5); the overall aim is to ensure that a railway undertaking is certified, it is allowed to operate in all Member States without additional administrative hurdles.
- An enhanced role of ERA in the vehicle authorisation process, varying from ensuring mutual recognition of vehicle authorisations by national authorities (option 2) up to issuing single vehicle authorisations (European passports for vehicles) entirely by ERA (option 5); the overall aim is to ensure that once authorised, a railway vehicle does not need further authorisations to be placed in service in other Member States and can circulate freely in the EU (provided that technical compatibility is assured).
- Control by ERA over the functioning of NSAs (e.g. developing guidelines & auditing their adherence to them); this could also include the verification of whether sufficient resources are assigned to interoperability and safety tasks at NSAs; common to options 2-5, however at a different level of magnitude as the level of control will have to be greater in option 2 and lower in option 5, due to taking over of part of the NSAs' responsibilities by ERA.
- An enhanced “coordination” and supervision role of ERA (including the right to audit) with respect to NoBos, regarding type approval, rail vehicle and ERTMS certification, and accreditation of NoBos (this measure is especially relevant to the ERTMS deployment); common to options 2-5.

The importance of these four measures was confirmed by the stakeholders and, following further analysis, they have been incorporated to each of the policy packages 2-5.⁴² They are of major importance to tackle three crucial challenges in the EU Railway Area: migration to both single safety certificate and single vehicle authorisation (European passport for vehicles), and improving the inefficient functioning of national authorities (NSAs and NoBos).

5.2.3 Short description of options

Option 1: Baseline scenario (Do nothing)

This option sets out the baseline scenario for the analysis going forward. All other options will be measured against this option; its elements are described in section 3.5.

Option 2: Greater coordination role for the Agency

This first incremental option looks at a more enhanced role for the Agency which foresees the Agency getting more involved in the activities of the national authorities, but without affecting their decision making process. This option assumes that all aspects of option 1 are taking place and adds the measures relating to enhanced coordination of ERA over NSAs regarding granting of vehicle authorisations & safety certificates, including ensuring their mutual recognition by

⁴² Regarding single vehicle authorisation, subsequent to the stakeholder consultation and following analysis the original name of the measure ("Setting up a European passport for locomotives") was changed and widened to become single vehicle authorisation, in order to create a harmonised and structured approach to vehicle authorisation that seeks to minimise the necessity of having differentiated authorisation processes.

national authorities. At the same time, the functioning of NSAs and NoBos will be subject to supervision of the Agency, with the possibility to audit them and to set the accreditation conditions for NoBos. This option also assumes mutual recognition of both vehicle authorisations and safety certificates.

Option 3: ERA as a one-stop-shop

This intermediate option builds on option 1 and incorporates some elements of option 2 (measures relating to coordination of national authorities activities by ERA), but assigns more power to the Agency in relation to the manner in which NSAs undertake their activities. In particular this option assumes that ERA acts as a "one stop shop" for safety certificates and vehicle authorisation (with NSAs still responsible for issuing the decisions and the Agency checking the applications and decisions), at the same time being an appeal body for some decisions of national authorities. This option also assumes migration to a single (common) safety certificate and single common vehicle authorisation (setting up European "passport" for vehicles), with the decision-making powers staying at national level.

Option 4: ERA and NSAs share competencies

The basis of this option is that the Agency would be the central body receiving and processing any requests for safety certification and vehicle/ERTMS subsystems authorisation. It would not hold the majority of the required competencies in ERA, but would continue to rely on NSA staff to carry out the relevant activities within Member States where the part of the NSA's staff would be subordinate to the decisions and direction of the Agency. In this case, this staff would report to an EU body, the Agency, rather than to national authorities.

The NSAs would still be tasked with issuing the authorisations for placing into service fixed installations and vehicle authorisations (vehicle passports) for domestic services. The existence of national rules would decrease at a greater rate than the approach adopted in the previous options, since the Agency would have an additional overarching goal of monitoring, and eventually requesting the removal of national rules. The following elements would be key to this option:

- ERA granting safety certificates to railway undertakings and vehicle authorisations (passports) to applicants (a "one stop shop" for safety certificates and vehicle authorisation), on the basis of competences shared with the NSAs;
- Migration to a single safety certificate and single vehicle authorisation (passport), with the formal decision-making powers transferred to ERA.

Option 5: ERA takes over all activities of the NSAs

This option is the most ambitious in terms of extending the future role of the Agency. It assumes that the Agency would take over all safety certification and authorisation tasks currently undertaken by the NSAs. This would involve the Agency expanding its facilities and establishing local offices in each Member State (or at least in the larger Member States or regional hubs). All staff involved in these activities would be employed by the Agency. It is assumed that the Agency would continue to be subject to the same European Commission administration and employment procedures for all of its activities. The key measures in this option are:

- ERA completely takes over the competences of the NSAs regarding granting certificates to railway undertakings and authorisations for placing into service;
- Migration to a single common safety certificate and single vehicle authorisation, with the formal decision-making powers transferred to ERA.

Option 6: Horizontal measures

This option is made up of a number of measures that have a wide reaching impact on the administrative procedures of NSAs, ERA and industry as a whole, but do not relate directly to the role of the Agency vis-à-vis NSAs or NoBos.

This includes, inter alia:

- amending the railway directives to enable the adoption by the Commission of implementing/delegated acts setting out common principles and practices for the national authorities;
- enhancing the role of ERA in the dissemination of railway-related information and training;
- migrating from national technical and safety rules to a system of EU rules (through the identification of unnecessary rules by ERA and NSAs and then the requirement for national authorities to remove those rules, as well as strictly limiting the possibility of adopting new rules).

It is a self-standing option, as it would, in principle, lead on its own to certain improvements in all problem areas. It is therefore, and for the sake of transparency and due to positive outcome of stakeholders' consultation and early start of likely effects (2015), assessed separately.

However, at the same time option 6 has amplificatory effect on other options, hence it was deemed useful and appropriate to combine the measures in option 6 with options 2-5 to produce the most optimal approach in terms of changes to the sector, leading to improved competitiveness. Therefore option 6 is also assessed in combination with options 2-5; it should be noted that the impact of individual measures of option 6 was differentiated in relation to each of options 2-5, as shown in Table VII-15 in Annex VII.

5.3 Interaction with legal acts and stakeholders' views

All options apply in principle to the three legislative acts in question (the Interoperability and Safety Directives and ERA Regulation); implementation of each option would require amendments to each legislative act.

Stakeholders, in general, largely supported the measures in all options relating to enhanced coordination and control of NSAs by ERA (including audit), as well as ERA acting as an appeal body to some decisions of national authorities. The measures on developing a single safety certificate and setting up a European passport for vehicles (single vehicle authorisation) were also supported. Respondents were divided on sharing competences between ERA and NSAs and rather unfavourable to a complete take-over of all functions of NSAs by ERA. The enhanced role of ERA in relation to NoBos (increased coordination and supervision) was also supported decisively. All individual measures from option 6 received high support from stakeholders and were perceived as beneficial for railways; this was one of the reasons why option 6 was finally combined with the preferred option.

The level of support was differentiated according to the group of respondents. Not surprisingly, the respondents representing the NSAs were in general against ERA sharing/taking over their responsibilities (measures from options 3-5: "ERA shares/takes over the competences of the NSAs regarding granting of certificates to the railway undertakings and vehicle authorisations"), while the opinion of other respondents was more balanced. A similar pattern could be observed in relation to the Notified Bodies.

To sum up, all final options (i.e. options 2-5 combined with option 6) were supported by stakeholders, with option 2 and 3 having the highest level of support and option 5 the lowest.

6.1 Introduction and general methodological approach

This section details the impact assessment of different options⁴³. Given the strong focus on operational efficiency, the core impacts of this initiative are economic, while social and environmental impacts are mostly indirect and sometimes negligible. Direct impacts are quantified, while indirect impacts are assessed in qualitative terms.

The section is comprised of the following sections:

- i) identification of the magnitude of the main impacts;
- ii) quantitative assessment of *direct impacts* on:
 - railway undertakings (vehicle authorisation timescales and costs, certification timescales and costs and opportunity cost savings resulting from a reduced time to market for railway vehicles)
 - Cost of administration of ERA and NSAs;
- iii) qualitative assessment of *indirect impacts*.

6.2 Approach to the calculation of costs and benefits

The report assesses the costs and benefits related to the different institutional setup as foreseen in options 1-5 and horizontal measures included in option 6. In principle, assessment consists of three major blocks:

- calculation of savings in costs and timescales of certification and authorisation processes (including savings of administrative costs for operators);
- calculation of opportunity cost savings for operators resulting from a reduced time to market for railway vehicles and
- calculation of the changes in the cost of administration of ERA and national authorities.

Results of these calculations are presented in separate sections below. Each section starts with a short overview of the methodology applied.

Furthermore, the impacts of different policy options were considered to differ according to the current industry context in any given country. In these terms the impacts were differentiated according to following country groups:

- *Average* – encompasses the majority of countries.
- *Challenging* – Germany and France since these countries have both been identified as having specific issues. Measures that enforce greater conformity with EU law are likely to have the greatest impact in these countries .
- *Low resource* – a number of countries having very small numbers of NSA staff available to deal with authorisation and certification, with the result that some measures are likely to particularly impact on authorisation and certification in these countries. The countries included in this category are: Italy, Poland, Czech Republic, Slovakia, Estonia, Greece, Luxembourg, Portugal and Slovenia.

For all categories, indicator values have been produced for a ten year future period (2015 to 2025). Impacts of different measures are phased to be commensurate with their anticipated time

⁴³ Analysis of impacts is based on the work of the consultant. For full details, see the IA support study, especially its Appendix D [add link after publication]

of implementation – i.e. soft measures have earlier impacts (as from 2015), while legislative measures are considered to have effect not earlier than 2017. Where the metric is a monetary value, it is presented in net present value (NPV) terms using a discount factor of 4%, with values discounted to 2012.

Annex VII provides more information on the impact assessment methodology, including baseline and forecasted values and reasoning supporting the assumptions. Interim results at detailed level can be found in Appendix D of the IA support study⁴⁴.

6.3 Identification of the magnitude of the main impacts

The table below provides a summary of an initial qualitative assessment of key characteristics and phasing in of impact of measures included in each option. 'Impact magnitude' relates to the potential of each option to reduce the authorisation costs and timescales, which constitute core elements of expected impacts⁴⁵. This initial assessment provided a framework for further detailed calculations as well as reference point for a 'sense check' of the results.

Table 6-1: Preliminary assessment of main impacts of options 1 to 6

Measure	Key impact characteristics (as prompted by question list	Impact magnitude (low/medium/high)	Likely phasing of main impact
Baseline	The Baseline encompasses a wide range of impacts, a number of which (e.g. work on national rules) are likely to have a significant effect on authorisation costs and timescales.	Medium	2011-2025
Option 2 Greater coordination role for the Agency	The impact of this option is relatively low with additional powers of the Agency limited. Main impact is on additional authorisations.	Low*	2017-2022
Option 3 ERA as a one stop shop	Whilst ERA has more powers in this option primarily through entry and exit checks of applications, it is likely that additional benefits over option 2 will be limited with division of labour between NSAs and the Agency being an issue.	Low/Medium*	2017-2022
Option 4 ERA and NSAs share competences	Provided ERA has sufficient powers to act as a strong central office this option is likely to have a significant impact on authorisation and certification costs and timescales.	Medium/High*	2017-2023
Option 5 ERA takes over activities of NSAs regarding authorisation and certification	This option would have a high impact on authorisation costs and timescales and would also enable additional efficiencies over the current arrangements through economies of scale.	High*	2017-2023
Option 6 Horizontal measures	This option contains some measures that can be implemented relatively quickly and as such has an earlier benefit than any other option. However, most of the measures have a medium or low impact and therefore the overall impact is similar to options 2 and 3.	Medium*	2015-2025

⁴⁴ [add link after publication of the study]

⁴⁵ Underlying detailed analysis at the level of individual measures is provided in Tables VII-9 to VII-14 in Annex 7.

* On top of the baseline

6.4 Direct impacts on railway undertakings

6.4.1 Benefits of reduced time and costs of authorisation and certification processes.

Method of assessment

The three key input data sets for calculations are as follows:

- current costs, timescales and levels of authorisation and certification by country
- future trends in levels of authorisation and certification by authorisation/certification category (where significant change anticipated)
- expected effect of individual measures on the costs and timescales of authorisation and certification of the different options.

The input data for Current costs, timescales and levels of authorisation and certification include:

- Agency Report on railway vehicle authorisation⁴⁶
- Agency Report on migration towards the single safety certificate⁴⁷
- Data from the presentations given at the vehicle authorisation Task Force⁴⁸
- Data from interviews with industry stakeholders
- Some (minimal) data provided within the stakeholder survey

Inputs are differentiated by 20 different authorisation categories (see *Table VII-1*, Annex 7) and 4 certification categories (*Table VII-2*, Annex 7).

Future trends in levels of authorisation and certification are calculated on the basis of following assumptions:

- number of authorisations in 2008 (i.e. before the dramatic impacts of the economic downturn) is used as a baseline, but (very conservatively compared to what would be needed to achieve the expected higher modal share for rail) it is assumed that there would be no growth compared to 2008 level until 2025;
- the UNIFE estimate of savings from Cross-Acceptance assumes additional authorisations for each new locomotive and multiple unit type in ten countries, it has been assumed that this ratio holds true for all new authorisations;
- the number of authorisations related to ERTMS is considered being proportional to the share of the network covered by ERTMS⁴⁹.
- it is anticipated that market consolidation and changes induced by the TSIs will reduce the number of vehicle types, in these terms estimates quoted in the Cross-Acceptance report have been used⁵⁰.

⁴⁶ [http://www.era.europa.eu/Document-Register/Documents/Final%20report%20on%20vehicle%20authorisation%20\(part%201\).pdf](http://www.era.europa.eu/Document-Register/Documents/Final%20report%20on%20vehicle%20authorisation%20(part%201).pdf)

⁴⁷ http://www.era.europa.eu/Document-Register/Documents/development_of_a_migration_strategy_towards_a_single_safety_certificate.doc

⁴⁸ The Task Force was set up primarily following the stakeholders' request and in relation to the process of authorisation of placing into service of rail vehicles. It included approx. 35 persons representing Member States, National Safety Authorities, Notified Bodies, manufacturers, operators and associations (CER, EIM, ERFA, UNIFE, UITP, UIP, EPTTOLA, Keolis, Mitsui, Veolia, Alstom, AnsaldoBreda, Siemens, SNCF, Trenitalia), the European Railway Agency and DG MOVE.

⁴⁹ Including routes for which ERTMS has been contracted but not yet implemented

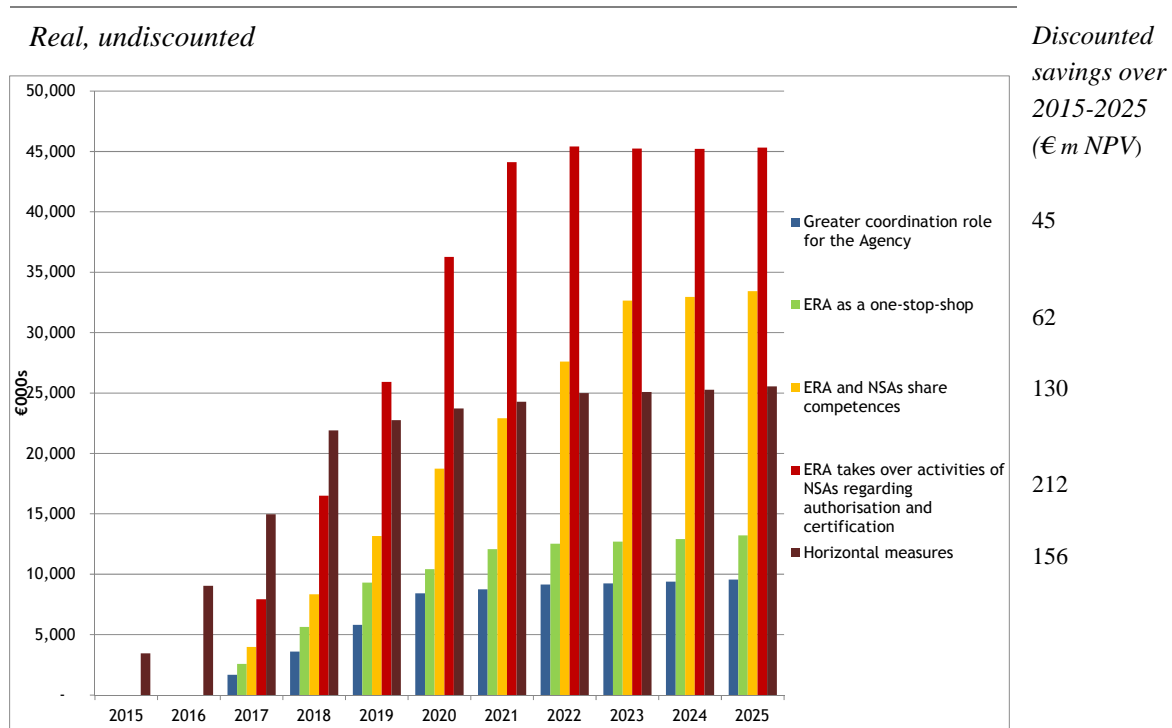
⁵⁰ Table VII-4 in Annex VII presents the type size changes assumptions in detail.

The impacts of the different options are expressed in terms of potential reductions in costs and timescales of authorisation and certification achieved by different options. To this end each measure was individually assessed and attributed an 'impact value' expressed as a percentage reduction of the gap between (a) the current costs and timescales (in each country type) and (b) the minimum (or 'ideal') achievable cost and timescale. The minimum possible authorisation costs and timescales are set out in *Tables VII-5 to VII-8* in Annex VII. Once each measure was assessed an overall assessment at option level was carried out to translate reductions in costs and timescales into monetary values. This amalgamated the impacts at an option level, applying adjustments to avoid double-counting of impacts when measures were added together.

Results of individual options 1 to 6

The summary of expected savings in authorisation costs in 2015-2025 (incremental on the baseline) of options 2-6 is given below:

Figure 6-1: Total authorisation cost savings 2015-2025 of options 2-6

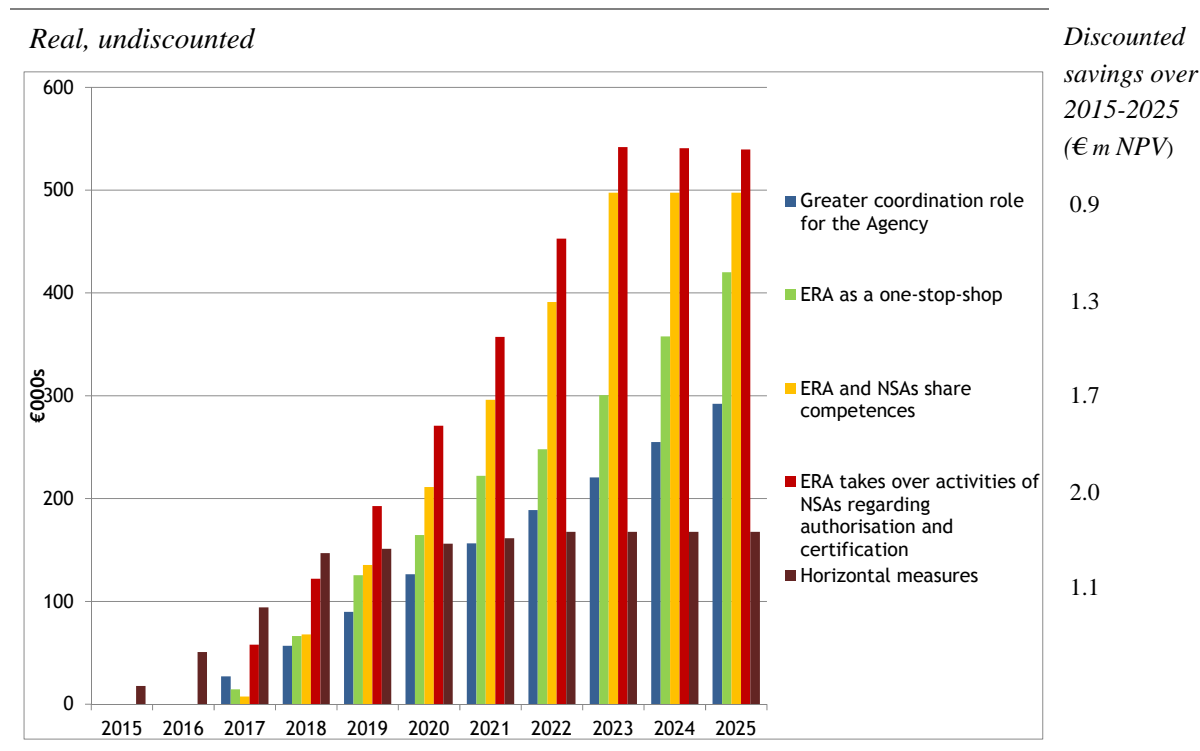


Consistent with the qualitative analysis in section 6.3, option 5 is significantly more effective than other options, with efficiencies that can only be achieved through complete centralisation. Option 6 has an earlier impact than the other options, again consistent with the qualitative analysis, and reflecting measures that can be put in place relatively quickly. The significantly larger impact of option 6 compared with options 2 and 3 can be explained by the following reasons:

- Early start of measures (in option 6, a majority of the measures can be implemented by 2015)
- Large number of measures (six) in option 6 with medium impact (see *Table VII-9* in Annex VII)
- Limited 'power' of option 2 and 3 measures resulting in low impacts of many measures (see *Tables VII-10* and *VII-11* in Annex VII).

The certification savings, as indicated in Figure 6-2, are much smaller reflecting both a lower volume and lower costs of safety certifications compared with authorisation. There are also fewer differentials between options 3 and 4. Also the benefits of the horizontal measures (option 6) are significantly smaller than those for options 3-5.

Figure 6-2: Total certification cost savings 2015-2025 of options 2-6



Results of options 2 to 5 in combination with option 6

In addition to the analysis of the individual policy options, a further set of policy options was created by combining the impacts of the horizontal measures (Option 6) with the impacts of the other policy options. It should be noted that assessment has not meant simple addition of the impacts, since the horizontal measures have different combined impacts with options 2 to 5. The matrix providing detailed information on the extent of assumed overlap is provided in Table VII-15 in Annex VII.

The figure below shows the impacts of each option 2-5 in combination with option 6.

Figure 6-3: Total authorisation costs 2012-2025 of options 2-5 in combination with option 6

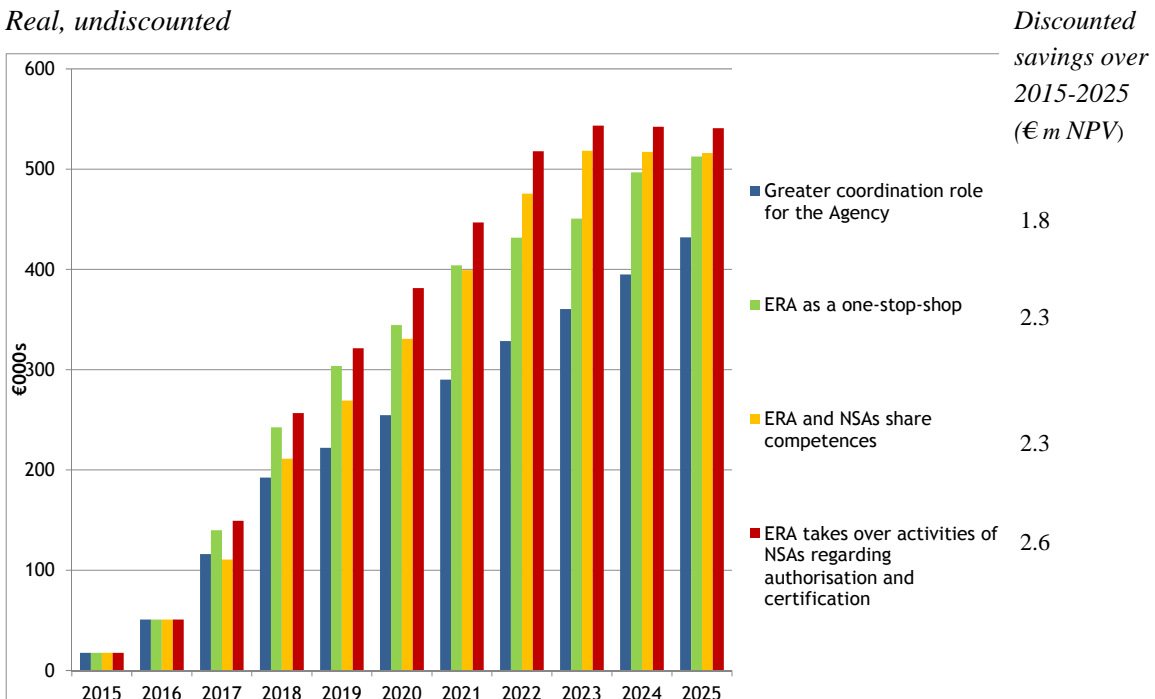
Real, undiscounted



It appears that the combined options have significantly higher impacts on the cost of authorisation, with options 4 and 5 when applied along with the horizontal measures reaching at least a 20% improvement over their individual impact.

Figure 6-4: Total certification cost savings 2015-2025 of options 2-5 in combination with option 6

Real, undiscounted



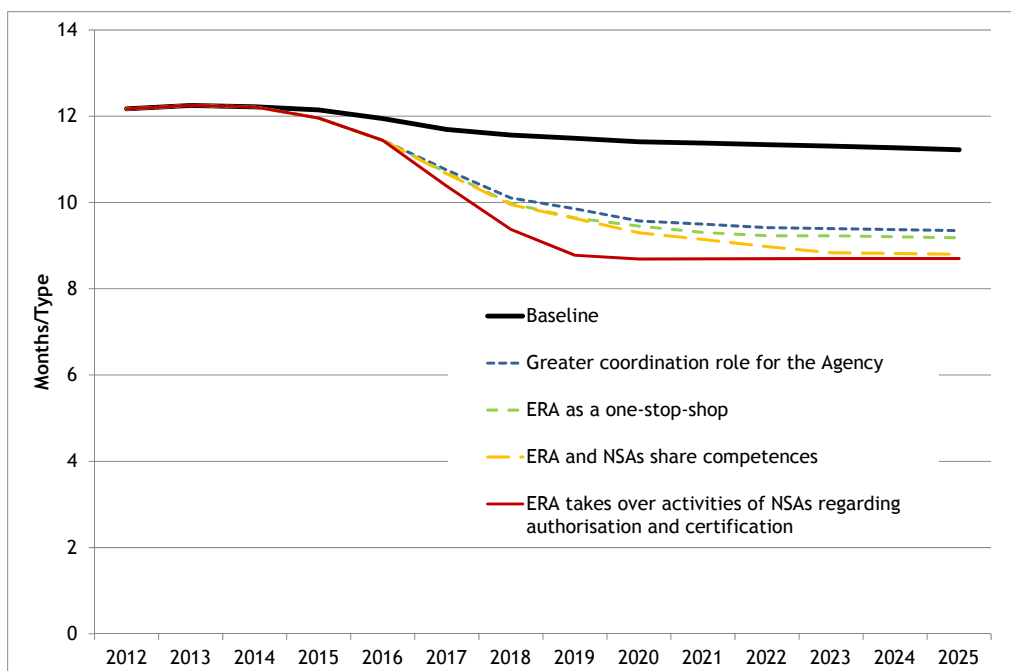
The difference between options 4 and 5 for certification costs narrows less than for authorisation costs, partly due to the dominating influence of bringing forward the impacts of the single safety certificate both in options 4 and 5. However, options 3 and 4 now have a virtually identical level of benefit.

6.4.2 Opportunity cost savings

Method of assessment

More effective authorisation procedures⁵¹ would, in addition to cost savings, also result in quicker time to market. Savings in time are assessed in similar manner as the savings in authorisation costs, as described above. Results are shown in the figure below, with options 5 and 4 being the most effective resulting in saving of time of about 25%.

Figure 6-5: Average reduction in authorisation timescales by combined options



There will be a number of savings arising directly from shorter rolling stock authorisation timescales. These include:

- reduction in operating costs accrued as a result of needing to cover delayed stock with alternative stock;
- reduction in loss of revenue, where the introduction of new services is delayed/existing services are cut back when rolling stock is not available to cover for delayed stock;
- reduced storage costs.

The key assumptions regarding the estimates are:

- Cost of alternative rolling stock is assumed to be cost of leasing additional rolling stock. For locomotives a value of approx. €30k per month has been used and for multiple unit vehicles, €15k. Both these values are approximately 1% of typical average new vehicle values.
- Using UIC (International Union of Railways) data, average revenue per locomotive and passenger vehicle was calculated as a percentage of new vehicle

⁵¹ Reductions in certification timescales have not been included in the delay reduction since evidence suggests it is vehicle authorisation that is the primary binding constraint.

value. For locomotives this is 3.8% on a monthly basis and for passenger vehicles 1.9% on a monthly basis.

As exact quantification is challenging, three scenarios were developed to construct an assessment of the possible range of opportunity cost savings. The scenarios are:

- All affected services are covered by alternative rolling stock (lower bound);
- Half of affected freight services and half of affected passenger services are not able to run with resultant revenue loss (central case);
- None of the affected services are able to run (upper bound).

Results of options 2 to 5 in combination with option 6

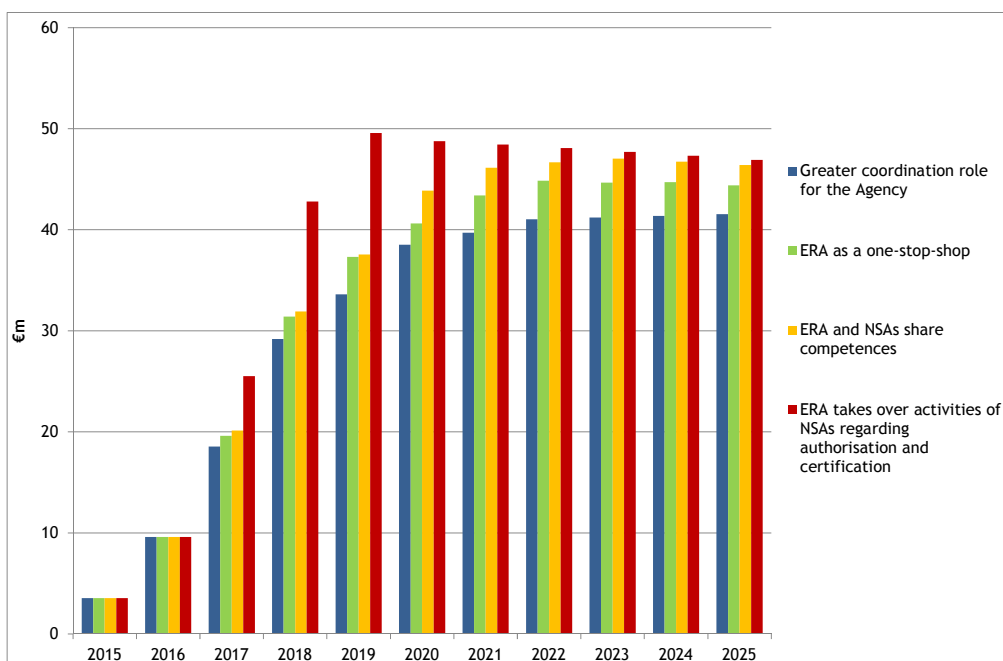
The table below shows the discounted opportunity cost savings that could be achieved over the period 2015 – 2025, with option 2 being the least and option 5 the most effective.

Table 6-2: Discounted opportunity cost savings 2015-2025 (discounted, € m NPV) of options 2-5 in combination with option 6

Option	Central Case	Lower bound	Upper bound
Option 2+6: Further ERA “Coordination”+ horizontal measures	237	71	402
Option 3+6: ERA as One-Stop-Shop + horizontal measures	255	77	433
Option 4+6: ERA and NSAs share competences + horizontal measures	265	81	450
Option 5+6: ERA takes over activities of NSAs regarding authorisation and certification + horizontal measures	295	90	499

The figure below illustrating savings by year for the central case further shows that savings per option are between €30 million and €40 million per year by the end of the evaluation period.

Figure 6-6: Total opportunity cost savings 2015-2025 of options 2-5 in combination with option 6 (€m, central case, real, undiscounted)



6.4.3 Total cost savings for rail undertakings

Combining the above mentioned authorisation, certification and opportunity cost (central case) savings demonstrates substantial benefits over the evaluation period with benefits of over €0.5 bn for options 3-5 even in discounted terms. Summary of quantified benefits for rail undertakings by each combined option are presented in the table below. These include also savings of administrative costs, which are an intrinsic part of certification and authorisations costs.

Table 6-3: Total quantified benefits for rail undertakings 2015-2025 of options 2-5 in combination with option 6 (discounted, €m NPV)

Option	Authorisation cost savings (Figure 6-3)	Certification cost savings (Figure 6-4)	Opportunity cost savings (central case) (Table 6-2)	Total benefits
Option 2+6: Further ERA “Coordination” + horizontal measures	201	2	237	440
Option 3+6: ERA as One-Stop-Shop+ horizontal measures	217	2	255	474
Option 4+6: ERA & NSAs share competencies+ horizontal measures	235	2	265	502
Option 5+6: ERA takes over activities of NSAs regarding authorisation &	276	3	295	574

6.5 Direct impacts on public authorities

Some of proposed measures entail a variation in the staff needed by ERA to perform additional tasks, and, in some cases, reductions of staff at NSAs, due to competences transferred at the central level. These changes will affect respectively cost of administration at EU and national level.

Method of assessment

For each policy option, the impacts have been disaggregated in order to identify variations in costs of each:

- i) the Agency (and the Commission, particularly in relation to option 6); and
- ii) national institutions (in particular NSAs).

For the purpose of this analysis, all costs are indexed to a base year of 2012 and are computed in real terms over the period 2012-2025 using the Net Present Value (NPV) at 4% discount rate.

For the different options the net costs of administration are estimated by computing:

- the variation in gross costs of administration for ERA and the Commission (namely variation in ERA costs and in the “separate appeal body” to be created in options 4 and 5), and for national administrations (variation in NSAs costs);
- the variation of potential revenues collected by levying charges for the activities carried out by the NSAs and ERA for safety certificates and vehicle authorisations.

The difference between the EU15 and EU12 Member States has been taken into account in terms of average salaries, average fees charged by NSAs, and average cost of NSAs’ staff in order to correctly identify the magnitude of impact of any potential changes. More detailed description of calculations of cost of administration are provided in section 9 of Annex VII.

6.5.1 Direct impacts on the ERA

Method of assessment

For each of the selected policy options, the number of additional staff needed by ERA has been estimated on the basis of the assessment of the individual measures included in each option. The starting point for this analysis was the preliminary impact assessment work already undertaken to date by the Agency in relation to its future role, though applying a more conservative approach. Subsequently, the following steps were taken:

- As a first step, the measures evaluated in the original ERA preliminary impact assessment were compared with the measures included in the options.
- Then, the analogies between the original and the new set of measures were identified. This way it was possible to associate to each of the new measures assessed a number of extra staff consistent with the considerations made by the ERA in their preliminary impact assessment.

- Finally, when considering the policy options, the potential synergies between the different measures included in each option were identified. This way, the number of extra staff required by ERA for each policy option was estimated.
- In addition, further considerations were made when merging option 6 with each of the other options, taking into account further synergies between measures and economies of scale.

The estimated total variation in staff members were distributed across years to take into account the fact that the recruitment process needs a number of years to be finalised (it was estimated that by 2020 all staff member variations would have occurred).

The following were also included in the figures of ERA staff variation:

- two additional human resources needed in option 4 and 5 to set up the “separate appeal body” at the European level (though this is clearly a cost that is not attributable to the Agency, but will be borne by the sector at the European level).
- two additional human resources needed at the European Commission to take forward horizontal measures envisaged in option 6.

Based on the current salary levels and the number of staff, the Agency estimates roughly €100k gross cost for each additional staff member. Lower average staff costs were assumed where larger numbers of staff are required, as more junior staff will be required when numbers increase.

Overhead costs were assumed to amount to 25% of direct staff costs. Further costs for other activities related to the individual measures, such as the costs of carrying out tests in laboratories for single components or travel costs for the training options, have also been taken into account, as well as costs related to ERA being able to obtain revenue. The starting point was the Agency calculations but, as for the staff costs, efficiencies were identified, where possible, in the grouped options. No additional costs were identified as a result of the baseline activities. Full set of assumptions is provided in Figure VII-7 in Annex VII.

Results of individual options 1 to 6

The table below sets out the results, and the consequential impacts, on the Agency of the individual options, with option 5 clearly standing out as the most costly.

Table 6-4: Additional cost of administration on the ERA of options 2-6 (€m)

Option	Total ERA staff (2011)	Yearly values by 2020 (when all staff changes have been phased in)						Total costs, NPV (2015-2025)	
		Total additional staff by 2020	Total additional staff cost	Overhead	Other costs	Total gross cost increase	% of current ERA budget		
Option 1: Baseline	154	-	<i>No impacts on cost of administration</i>						
Option 2: Further ERA “Coordination”		20	(1.9) ⁵²	(0.5)	(0.5)	(3)	14%	(20)	
Option 3: ERA as One-Stop-Shop		25	(2.4)	(0.6)	(0.5)	(4)	17%	(23)	
Option 4: ERA & NSAs share		37	(3.4)	(0.9)	(0.3)	(5)	23%	(30)	

⁵² All cost figures or negative numbers in tables are presented in brackets – ().

Option	Total ERA staff (2011)	Yearly values by 2020 (when all staff changes have been phased in)						Total costs, NPV (2015-2025)
		Total additional staff by 2020	Total additional staff cost	Overhead	Other costs	Total gross cost increase	% of current ERA budget	
competencies								
Option 5: ERA takes over activities of NSAs regarding authorisation & certification		302	(23.2)	(5.8)	(2.0)	(31)	154%	(221)
Option 6: Horizontal measures		27	(2.5)	(0.6)	(0.9)	(4)	20%	(28)

Note: These options also contain the potential impact on the Commission that arises particularly in option 6. Options 4 and 5 contain the effects of the creation of the separate appeal body.

Results of options 2 to 5 in combination with option 6

Four of the measures included in option 6 entail specific tasks for ERA, which may require additional staff involved and other extra costs, therefore implementing these horizontal measures on their own would imply 27 extra staff (as indicated in *Table 6-4* above). However, when merged with other options, the impact on ERA in terms of cost of administration is likely to be rather small. It is estimated that about 18 of additional staff members would be needed by ERA to implement Option 6 in combination with option 2, 3 and 4 respectively. As regards option 5, given the large number of additional staff required, the impact of merging it with option 6 would be negligible. The estimate of the cost of administration for ERA after this merging is given in the table below, with again option 5 being by far the most costly.

Table 6-5: Additional cost of administration on the ERA of options 2-5 in combination with option 6 (€m)

Option	Yearly values by 2020 (when all staff changes have been phased in)						Total costs, NPV (2015-2025)
	Total additional staff	Total additional staff cost	Overhead	Other costs	Total gross cost increase	% of current ERA budget	
Option 2+6: Further ERA "Coordination"+ horizontal measures	38	(3.5)	(0.9)	(0.5)	(4.9)	24%	(37)
Option 3+6: ERA as One-Stop-Shop+ horizontal measures	42	(3.9)	(1.0)	(0.5)	(5.4)	27%	(39)
Option 4+6: ERA & NSAs share competencies+ horizontal measures	55	(5.0)	(1.3)	(0.3)	(6.6)	33%	(44)
Option 5+6: ERA takes over activities of NSAs regarding authorisation & certification+ horizontal measures	302	(23.2)	(5.8)	(2.0)	(31)	154%	(221)

It can be seen from the table that the impact on the costs of the Agency for combined options 2 to 6 lead to a change in the yearly costs for the Agency of between €5 m and €1 m. Option 5 has the largest impact in terms of benefits for the industry, but also has the largest cost for the Agency, with the other four options having significantly lower additional costs.

6.5.2 Impacts on national institutions

Method of assessment

In order to estimate the variations in costs determined by a reduction of staff at NSAs, the average cost of one staff member in EU12 NSAs and EU15 NSAs was calculated on the basis of 5 case study countries (Germany, France, Italy, Poland and Hungary). This was then compared with the average cost of labour in the two groups of countries. It was assumed that a reduction of 10 staff from an NSA would lead on average to a cost saving of €600k in a ‘generic’ NSA⁵³.

It has been difficult to estimate the impact in terms of cost of administration on NSAs of the application of the horizontal measures (option 6). On the one hand, NSAs could face increased costs due to the need to implement the EU rules, requiring tougher standards and the supervision. On the other hand, the enhanced role of ERA in disseminating common rules and advising on their implementation could help to smooth the workload of NSAs. In addition a clearer legislative framework (e.g. migration from national technical and safety rules to a system of EU rules) should reduce burden on NSAs. By estimating the effects of the single measures within this option, the second effect was considered to have a higher impact than the first, leading to a net reduction in staff members per NSA.

Results of individual options 1 to 6

The table below reports the impacts on the cost of administration sustained by NSAs of each policy option.

Table 6-6: Savings of the cost of administration in NSAs of options 2-6 (€m)

Option	Total NSA staff* (estimate 2011)	Yearly values by 2020 (when all staff changes have been phased in), per NSA				Total NPV in the EU (2015-2025)	
		Total staff variation	Total staff costs saving	Overhead	Total gross cost saving		
Option 1: Baseline	500	No impacts on cost of administration					
Option 2: Further ERA “Coordination”		Marginal impacts on cost of administration				0	
Option 3: ERA as One-Stop-Shop		-2	EU12	0.08	0.02	0.1	26
			EU15	0.17	0.04	0.2	
Option 4: ERA & NSAs share competencies	-3	EU12	0.11	0.03	0.1	42	
		EU15	0.26	0.07	0.3		

⁵³ Taking into account the cost differences between NSAs in the EU12 and EU15 -approximately €220k for EU12 NSAs and about €75k for EU15 NSAs. The fact that the number of NSAs in the EU15 group is higher has also been factored in.

Option	Total NSA staff* (estimate 2011)	Yearly values by 2020 (when all staff changes have been phased in), <u>per NSA</u>				Total NPV in the EU (2015-2025)	
		Total staff variation	Total staff costs saving	Overhead	Total gross cost saving		
Option 5: ERA takes over activities of NSAs regarding authorisation & certification		-10	EU12	0.38	0.09	0.5	151
			EU15	0.87	0.22	1.	
Option 6: Horizontal measures		-2	EU12	0.08	0.02	0.	37
			EU15	0.17	0.04	0.2	

* Only those working on certification & authorisation. An estimated value based on the Interoperability and Safety Reports of the Agency. Assuming that EBA (German NSA) staff in regional offices is not counted as certification and authorisation staff, but is being an inspection and auditing staff.

The impact on the costs of the Agency for incremental options 3 to 6 leads to a change in the yearly costs for the single NSAs of between €0.1 m and €0.4 m in EU12 countries, and between €0.2 m and €1.1 m in EU15 countries. Clearly, option 5 has the largest benefit to the national public purse in terms of the impact on the NSAs, with the other four options leading to lower cost savings.

Results of options 2 to 5 in combination with option 6

The cost of administration on NSAs arising from combined options is presented in the table below, with option 5 having again the highest potential impact on reducing the costs.

Table 6-7: Savings of the cost of administration in NSAs of options 2-5 in combination with option 6 (€m)

Option	Total NSA staff* (estimate 2011)	Yearly values by 2020 (when all staff changes have been phased in), <u>per NSA</u>				Total NPV in the EU (2015-2025)	
		Total staff variation	Total staff costs saving	Overhead	Total gross cost saving		
Option 2+6: Further ERA “Coordination” + horizontal measures	500	-2	EU12	0.08	0.02	0.1	37
			EU15	0.17	0.04	0.2	
Option 3+6: ERA as One-Stop-Shop + horizontal measures	500	-4	EU12	0.09	0.02	0.1	55
			EU15	0.35	0.09	0.4	
Option 4+6: ERA & NSAs share competencies + horizontal measures	500	-5	EU12	0.11	0.03	0.1	68
			EU15	0.44	0.11	0.6	
Option 5+6: ERA takes over activities of NSAs regarding authorisation & certification + horizontal measures	500	-11	EU12	0.24	0.06	0.3	152
			EU15	0.96	0.24	1.2	

* Only those working on certification & authorisation. An estimated value based on the Interoperability and Safety Reports of the Agency. Assuming that EBA (German NSA) staff in regional offices is not counted as certification and authorisation staff, but is being an inspection and auditing staff

Impact on employment level and working conditions in national institutions

The implementation of different policy measures would have an effect on the employees of NSAs and NoBos. In numerical terms, however, the effect would be rather limited, with staffing variations in the NSAs likely to change in average by between 2 and 10 staff members on average, depending on the policy option implemented. The effects on NoBos would be assumingly negligible, as they would be marginally affected by the policy measures in terms of staff requirements.

As far as possible staff reduction in NSAs is concerned, its negative impact on employment is likely to be offset and/or minimised by the following:

- Linked increase in the staffing of ERA as a result of the implementation of policy measures, with a probable trend of (an at least partial) transfer of interoperability experts from national to EU level;
- Changes to be introduced at national level by the recast of the first railway package which include, inter alia, strengthening of national Regulatory Bodies (which in practice infers more staff); in many Member States, the NSA and the Regulatory Body is the same institution.
- The general, well-known difficulties surrounding recruitment of railway experts in the EU also include national authorities. All NSAs in the EU, except in Denmark and the UK, experience problems in this area⁵⁴. Therefore there is a strong basis for assumption that even if affected by staff reductions, a railway expert would find a new job relatively quickly (however probably not at national level).
- The transfer of certain competences from the NSAs to ERA (safety certification and vehicle authorisation) would in general enable the national authorities to better concentrate on other current important tasks such as monitoring and enforcement; corresponding staff reductions could be then limited.
- The nature of work in national administrations (including in the NSAs) is usually linked with an "official" status for the employees; it means that there are possibilities –and sometimes obligations – for the states to ensure their constant employment.

Finally, assuming that majority of former NSAs employees find their new jobs at ERA, their working conditions should normally improve, given higher salaries and benefits offered at the EU level in comparison with many national administrations (especially from the EU-12).

6.5.3 Total changes in the cost of administration for the Agency and NSAs

The following table shows the estimated impacts on the cost of administration for ERA and NSAs respectively for each of the policy options analysed. For all options, except for option 5, an overall reduction in the cost of administration was estimated.

⁵⁴ As indicated in the ERA Interoperability Report 2011, the most problematic issues are less attractive NSA salaries and the limited number of rail experts in the labour market. The latter is related either to the specifics of the national educational system, which does not supply sufficient numbers of graduates with technical railway knowledge, or to the competition for qualified staff from the rail industry, which may provide better salaries.

Table 6-8: Change in Agency and NSA costs and the net impact on cost of administration of options 2-5 in combination with option 6 (Total costs, NPV, 2015-2025, € m)

Option	Estimated cost increase for ERA (Table 6-5)	Estimated cost decrease for NSAs (Table 6-7)	Total saving in the cost of administration (ERA+NSAs)
Option 2+6: Further ERA "Coordination"+ horizontal measures	(37)	37	0
Option 3+6: ERA as One-Stop-Shop + horizontal measures	(39)	55	16
Option 4+6: ERA & NSAs share competencies + horizontal measures	(44)	68	24
Option 5+6: ERA takes over activities of NSAs regarding authorisation & certification + horizontal measures	(221)	152	(69)

The table above shows that option 4 leads to the highest potential cost savings of €24 m, while the implementation of option 5 is expected to impose an increase in cost of administration of about €69m.

6.5.4 Cost recovery through fees

To complete the analysis of the cost of administration, an assessment was made of how potential fee revenues from certification and authorisation could be distributed between the institutions in case of different policy options. The input data for this analysis has been the forecast of total number of safety certificates issued and vehicle authorisations granted as described in Section 6.4.1, the average fees for these two activities and how the fee revenues would be shared between the Agency and NSAs.

Method of assessment

It has been assumed that:

- Average safety certificate fees were derived from the stakeholder consultation - €20k for EU 15 MS and €3 k for EU 12 MS. Future fees have been set equal to €10k across all the EU to take into account of a standardisation of payments and procedures.
- Revenue sharing: different criteria for sharing revenues between the Agency and NSAs have been identified for the different options. In the case of options 2 and 3 safety certificate revenues have been entirely assigned to NSAs (as in the current situation); in the case of option 4, different hypotheses have been made to test the impacts of the consequences of changing the distribution of revenues between ERA and NSAs.
- over time there will be a gradual reduction in the total number of vehicle type authorisations as discussed earlier, which will lead to a reduction in total fees across the EU of about €29 m.

Further details on calculations are in Section 9 of Annex VII.

Results of options 2 to 5 in combination with option 6

The table below illustrates the extent to which future revenues collected by the Agency for its part of issuing of safety certificates and vehicle authorisation can cover the additional cost of administration.

Table 6-9: Cost coverage of incremental agency costs & additional call on EU budget of options 2-5 in combination with option 6 (Total costs, NPV, 2015-2025, € m)

Option	Revenue sharing criteria	Additional cost of administration for Agency* (Table 6-5)	Estimated Agency revenue increase	Coverage of additional Agency costs (%)	Additional call on EU budget
Option 2+6: Further ERA “Coordination” + horizontal measures	100% NSAs	(37)	0	0%	(37)
Option 3+6: ERA as One-Stop-Shop + horizontal measures	100% NSAs	(39)	0	0%	(39)
Option 4+6: ERA & NSAs share competencies + horizontal measures	a. 25% NSAs 75% ERA	(44)	56	127%	0
	b. 50% NSAs 50% ERA	(44)	38	86%	(6)
	c. 75% NSAs 25% ERA	(44)	19	43%	(25)
Option 5+6: ERA takes over activities of NSAs regarding authorisation & certification + horizontal measures	100% ERA	(221)	75	34%	(146)

* Represents the amount of EU-wide revenue foregone by the NSAs.

The last column shows the additional call on the EU budget from the various options. In options 4 and 5 ERA is able to cover a significant part of its incremental costs related to safety certification and vehicle authorisation. In particular, option 4a, with the assignment of 75% of revenues to ERA, is the one that grants the highest coverage (127%) of additional Agency costs related to safety certification and authorisation activities. However, given the amount of work that will still need to be done by NSA technical experts in option 4, it would probably not be justifiable to give the NSA only 25% of the revenue.

Conversely, option 5 shows the least coverage of costs. Although the Agency is assumed to keep all potential fees generated by these activities, they would not be sufficient to cover the incremental costs of the substantial increase in Agency staff.

6.6 Assessment of indirect impacts

Section 10 in Annex VII gives an overview of the assessment of indirect impact. The indirect impact on rail demand, passenger fares and industry revenues, as well as any environmental impacts (GHG emissions, air quality and noise) is expected to be low, and it reality would be difficult to establish to what extent these were originated by this initiative rather than other 4th Railway Package initiatives and/or external factors such as changes in demand of other transport modes. However, options 4 and 5, especially when combined with the horizontal

measures of option 6, are expected to have positive impacts on rail freight prices, service levels and rail investments triggered by the changes in rail market structure, especially in those countries where the interoperability and safety procedures are currently the longest and most costly. Rail safety levels under each option remain the same given that the principal responsibilities of each main actor in the safety chain (predominantly RU and IM) will not be changed, or could improve slightly as a result of more harmonised national legislation.

6.7 Assessment of impacts on micro, small and medium sized enterprises

The key company groups (following the Commission Recommendation 2003/361/EC of 6 May 2003 defining micro, small and medium sized enterprises) impacted by the proposed options are:

- Passenger Railway Undertakings
- Freight Railway Undertakings
- NoBos
- ROSCOs (Rolling stock leasing companies)
- Rolling stock suppliers

For these groups, the effects of the proposed options will be primarily positive with reductions in authorisation costs and timescales benefiting both passenger and freight railway undertakings, ROSCOs and rolling stock suppliers. In addition benefits are likely to be proportionately larger for smaller type sizes which would be anticipated to disproportionately benefit SMEs. Finally, benefits are likely to be most significant for new entrants currently facing discriminatory authorisation processes, a higher proportion of which will be SMEs than current incumbents.

The one company group where the options could result in additional costs is NoBos, however not all of them, as small/medium companies they are often part of a bigger company or a group. This will result from the measure proposing coordination and supervision of NoBos in options 2 to 5. However, apart from complying with guidance, the main cost for NoBos will be facilitating audits by the Agency (which should represent small cost). Micro enterprises need to be included in the scope of the legislation in order to ensure the principle goals of the legislation, which is safety and interoperability of EU railways.

It would be in any case recommended that:

1. Levels of NoBo audit are proportional to the volume of work carried about by each NoBo;
2. Guidance to NoBos from ERA should avoid the creation of administrative costs not directly related to the frontline services of NoBos.

7 COMPARISON OF OPTIONS

7.1 Comparison in terms of direct impacts

The overall results of the assessment of different impacts are summarised in the table below. Although option 6 could be pursued as a self-standing option, the analysis has shown the strong benefits of combining it with institutional options 2-5. Therefore, in this final section the report will focus only on the impacts of combined options – i.e options 2-5 each combined with horizontal measures of option 6.

Table 7-1: Summary table of discounted cost savings for rail undertakings and public authorities 2015-2025 of options 2-5 in combination with option 6 (NPV, € m)

Option	Savings to rail undertakings (including in administrative costs)				Change in cost of administration			ERA/NSA authorisation fee revenue loss ⁵⁵	Total net benefit	Additional funds necessary from EU budget to cover ERA costs (Table 6-9)
	Authorisation (Figure 6-3)	Safety certification (Figure 6-4)	Opportunity costs (central case) (Table 6-2)	Total benefits for operators	For ERA (Table 6-5)	For NSAs (Table 6-2)	Total change in cost of administration			
Option 2+6: Further ERA “Coordination” +horizontal measures	201	2	237	440	(37)	37	0	(29)	411	(37)
Option 3+6: ERA as One-Stop- Shop + horizontal measures	217	2	255	474	(39)	55	16	(29)	461	(39)
Option 4+6: ERA & NSAs share competencies + horizontal measures	235	2	265	502	(44)	68	24	(29)	497	a: 0
										b: (6)
										c: (25)
Option 5+6: ERA takes over activities of NSAs regarding authorisation & certification + horizontal measures	276	3	295	574	(221)	152	(69)	(29)	476	(146)

Taking into account the direct impacts, option 4 is the most beneficial, i.e. it has the best cost/benefit ratio. Moreover, it can also be cost-neutral to the EU budget (a minimal cost under scenario (b) and neutral under scenario (a)), given the proposed coverage of additional costs of ERA through industry fees.

⁵⁵ As explained in Section 6.4.8, over time there will be a gradual reduction in the total number of vehicle type authorisations, which will lead to a reduction in total fees across the EU of about €29 m.

7.2 Comparison in terms of efficiency and effectiveness

The net cost and benefits have to be compared with the expected effectiveness of each option in terms of the operational objectives as out in section 4. The table below show the results of the combined options in achieving the relevant targets.

Table 7-2: Estimated changes in authorisation and certification costs and timescales by 2025 by the options 2-5 in combination with option 6 (incremental to the baseline developments)

Option	Reduction in cost of authorisation	Reduction in time of authorisation	Reduction in average time to market	Reduction in cost of certification	Reduction in timescale of certification
	Target: 20% reduction by 2025				
Option 1: Baseline	0%	0%	0%	0%	0%
Option 2+6: Further ERA “Coordination”+ horizontal measures	19%	17%	19%	16%	25%
Option 3+6: ERA as One-Stop-Shop + horizontal measures	20%	18%	22%	19%	30%
Option 4+6: ERA & NSAs share competencies + horizontal measures	24%	22%	25%	19%	33%
Option 5+6: ERA takes over activities of NSAs regarding authorisation & certification + horizontal measures	24%	22%	30%	20%	46%

For total authorisation costs and timescales the target requiring a reduction of 20% in 2025 is only achieved in options 4 and 5. There have been no targets set for the reduction in safety certification costs (as these are less material), but for completeness the table also presents the estimated reductions in this category. For the target relating to average time to market (RU safety certification plus vehicle authorisation timescale) the objective of a reduction is also achieved in option 3. Finally, the target relating to national rules is achieved through the measures contained in option 6, and, given that option 6 has now been joined to each option 2 to 5, this target is achieved through all combined options.

The effectiveness and efficiency of different options is summarised in the table below.

Table 7-3: Efficiency and effectiveness of the options

Option	Efficiency (Total Net Benefit €m) <i>(Table 7-1)</i>	Effectiveness (number of operational objectives met)
Option 2+6: Further ERA “Coordination” + horizontal measures	411	1
Option 3+6: ERA as One-Stop-Shop + horizontal measures	461	2
Option 4+6: ERA & NSAs share competencies + horizontal measures	497	3
Option 5+6: ERA takes over activities of NSAs regarding authorisation & certification + horizontal measures	476	3

This table shows that by combining the net benefits with effectiveness in terms of operational objectives, option 4 remains the favoured option – all objectives will be achieved with a highest net benefit. While the benefits of option 3 are relatively close to those of option 4, this option would compare unfavourably in terms of effectiveness as the target for reduction in authorisation costs will not be achieved.

In conclusion, option 4 would be a coherent, effective and efficient solution to the problems identified, as it provides the best balance of outcomes in relation to:

- the industry, in terms of reduced costs and timescales for safety certification and vehicle, and other sub-system, authorisation;
- cost implications for the EU budget in terms of incremental costs of the Agency;
- the cost impacts on national institutions;
- respect of the subsidiarity and proportionality principles;
- addressing the problems identified in section 3; and
- meeting the objectives outlined in section 4.

Furthermore, it can be noted these activities are in line with the type of role that EASA (European Air Safety Agency) and EMSA (European Maritime Safety Agency) have within their respective sectors, which allow for direction of the sector without impacting on the subsidiarity of Member States' institutions.

Option 4 in combination with option 6 should be therefore pursued in the preparation of the legislative proposal. Annex VIII gives more information on how the preferred option is planned to be implemented, both in terms of resources and planned policy measures.

8 MONITORING AND EVALUATION

Regarding evaluation, it is planned that in 2025 the Commission will evaluate whether the objectives of the initiative were achieved, and if not, consider which additional steps need to be taken in order to complete them by 2030, an important date set in the White Paper on Transport for many initiatives.

Progress in terms of reaching the objectives could be monitored by relevant monitoring indicators. For this purpose, the existing targets for operational objectives could be used and transformed in the following indicators:

- number of national rules,
- cost and duration of safety certification procedure, and
- cost and duration of vehicle authorisation procedure.

The indicators could be verified by the following tools:

- Interviews (and, where possible, a questionnaire) with an appropriate selection of stakeholders who should provide their own assessment of time and costs related to certification and vehicle authorisation. Such a survey of key stakeholders could be carried out on the initiative of the Commission in 2020 and 2025 as an adequate basis to evaluate whether the foreseen time and cost savings have been achieved. This would be

subsequently reported by the Agency in the framework of their regular Interoperability Report;

- Developments in relation to the number of published (notified to the Commission) national safety and technical rules, measured in the Commission Notif-IT database.

Additionally, it might be also useful to monitor the position of stakeholders with respect to the specific objectives through a consultation process in the coming years, to understand if the following is being achieved:

- Non-discrimination;
- An increase the coherence of the national legal framework.

This consultation could be named “Rail administrative barriers barometer” and tied to the existing Eurobarometer survey in the area of rail.

ANNEX I THE FOURTH RAILWAY PACKAGE – THE 'BIG PICTURE'

Caveat: The content of this Annex will be further refined and updated as the policy preparation processes for the different initiatives within the Fourth Package progress

1. INTRODUCTION

In its White Paper "Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system" adopted on 28 March 2011 ('2011 White Paper'), the Commission unveiled its vision to establish a genuine Single European Transport Area and it clarified that this objective implies creating the true Single European railway Area. A crucial condition to meet this goal is the removal of all obstacles of administrative, technical or regulatory nature still holding back the rail sector. As announced in the 2011 White Paper, the Commission has prepared a set of proposals, to be adopted sequentially within the Fourth Railway Package.

Additionally, the European Council conclusions of January 2012 highlight the importance of releasing the growth-creating potential of a fully integrated Single Market, including as regards network industries.⁵⁶ More precisely, the Commission Communication on Action for Stability, Growth and Jobs adopted on 30 May 2012⁵⁷ stresses the importance of reducing further the regulatory burden and barriers to entry in the rail sector, making therefore country specific recommendations in that direction. In the same vein, the Commission adopted on 6 June 2012 the Communication on strengthening the governance of the single market, which stresses the importance of the transport sector with a special attention to rail.⁵⁸

This Annex gives a brief background of the development of EU railway *acquis* and clarifies the necessity and objectives of the Fourth Railway Package within this context. It presents all the elements included in the Package (a chapeau communication and seven legislative proposals accompanied by three impact assessments) and explains how different pieces fit together.⁵⁹

2. DEVELOPMENT OF EU RAILWAYS ACQUIS

In the past decade, the European legislator has considerably developed the EU *acquis* encouraging *competitiveness* and *market opening*. The overarching idea has been that greater competition makes for a more efficient and customer-responsive industry. In parallel measures have been taken to improve the *interoperability* and *safety* of national networks; and encourage the development of well integrated rail system leading to 'European', rather than 'national', railways.

Rail legislation in the early nineties introduced some limited degree of market opening and prompted the railways to improve efficiency by introducing management independence of railway undertakings from the state and separation of accounts between infrastructure management and transport operations. Since 2000, however, the European Commission has put forward further initiatives in the shape of packages of legislative measures.

The First Railway Package, adopted in 2001, was designed to:

- open the international rail freight market,

⁵⁶ http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/127599.pdf

⁵⁷ COM (2012) 299 final.

⁵⁸ COM(2012) 259 final

⁵⁹ The intention is to add this (identical) background Annex to each of the 3 rail package IAs.

- establish a general framework for the development of European railways, and clarify the relationship between (a) the state and the infrastructure manager; (b) the state and railway undertakings and (c) the infrastructure manager and railway undertakings (Directive 2001/12/EC);
- set out the conditions that freight operators must meet in order to be granted a licence to operate services on the European rail network (Directive 2001/13/EC); and
- define policy for capacity allocation and infrastructure charging (Directive 2001/14/EC).

The Second Railway Package was adopted in 2004. Its aim was to determine:

- a common approach to rail safety (Directive 2004/49/EC)
- requirements for interoperability of the European high speed and conventional rail systems (Directive 2004/50/EC)
- the opening of national and international rail freight markets on the entire European network (Directive 2004/51/EC)
- the establishment of the European Railway Agency (Regulation (EC) 881/2004, amended by Regulation 1335/2008).

The Third Railway Package was adopted in 2007, to open up international passenger services to competition. The objective of the package was:

- opening the market for international passenger services to competition (Directive 2007/58/EC)
- setting the conditions and procedures for the certification of train crews operating locomotives and trains (Directive 2007/59/EC); and
- ensuring basic rights for rail passengers (Regulation 1371/2007), for example, with regard to insurance, ticketing, and for passengers with reduced mobility.

The Recast of the First Railway Package was proposed by the Commission in 2010. Following a final vote of approval in the European Parliament on 3 July 2012, the new EU rules should come into force by the end of 2012. The recast aims to simplify and consolidate the rules by merging three directives and their amendments into a single text. Importantly, the Recast also seeks to clarify existing provisions and tackle key problem areas which have been identified in the market over the last ten years. In particular, the new legislation will strengthen the power of national regulators, improve the framework for investment in rail, and ensure fairer access to rail infrastructure and rail related services.

3. DEVELOPMENTS IN EU RAIL MARKET

Despite the considerable development of the EU *acquis* and rail markets, the modal share of passenger rail in intra-EU transport has in average remained more or less constant since 2000, at around 6%. The latest Euro-barometer survey suggests that only 6% of Europeans uses the train at least once per week.⁶⁰ It should be noted that there are marked differences between Member States, but in overall rail loses out in terms of modal share compared to other modes, reflecting a (real or perceived) lower level of efficiency, service levels and quality compared to other transport modes. In the Consumer Scoreboard 2011⁶¹, train services score worst of all

⁶⁰ http://ec.europa.eu/public_opinion/flash/fl_326_en.pdf

⁶¹ http://ec.europa.eu/consumers/consumer_research/cms_en.htm

transport services and four in ten consumers consider the choices in that service category to be inadequate.

Improvements will be necessary in all rail segments

As demonstrated by the EVERIS study⁶², to improve the overall modal split in favour of rail, improvement will be necessary in all rail segments, including conventional long-distance and urban train services.

The 6% modal share for rail in the EU has remained fairly stable in spite of the impressive development of **high-speed train networks**. The latter have managed to gain some markets at the expense of air transport services, but at the same time air transport has maintained important flows of passenger traffic on routes competing with rail⁶³. Since the mid-nineties, **local and regional passenger train services** in most Member States that did not open up their market have fallen in a downward spiral of continuous operational losses and subsequent reduced service offer. This decline has been exacerbated in the EU12 Member States by the decay of old infrastructure and rolling stock on the one hand, and wealth driven high-growth of car ownership, on the other hand.

Although **commuter transport** around urban agglomerations experiences growth in some Member States, cars still secure an important share of urban transport – 59% of Europeans never use suburban trains. This situation contrasts with the 75% urbanisation rate of the EU27 and therefore indicates a huge market development potential for suburban and regional passenger rail transport, especially given the raising congestions on roads.

The **rail freight markets** within the EU have been opened for a number of years, and the industry's stagnation cannot therefore be simply explained by the existence of legal barriers of the kind that continue to restrict competition in domestic passenger services. The problem to be addressed therefore also needs to be defined in terms of technical, physical capacity and institutional barriers, which have frustrated action to open markets taken at the EU level.

4. WHAT ARE THE PROBLEMS NECESSITATING ANOTHER RAIL PACKAGE?

According to available studies, the modest development of the rail sector, as explained above, can be attributed to the presence of several administrative, technical, institutional and legal obstacles, which still hamper market access and operational efficiency of service providers.

Domestic passenger market opening

Whereas markets for rail freight services have been fully opened to competition since January 2007⁶⁴ and those for international passenger transport services as of 1 January 2010⁶⁵, national domestic passenger markets remain largely closed⁶⁶. However, by removing the legal barrier by allowing open access to infrastructure for domestic passenger services, would have rather limited effects given that major part of the domestic rail market is covered by public service contracts (PSC). The rules on the provision of transport services under public service

⁶² http://ec.europa.eu/transport/rail/studies/doc/2010_09_09_study_on_regulatory_options_on_further_market_opening_in_rail_passenger_transport.pdf

⁶³ 27 out of the 40 largest intra-EU air routes in the EU were within the reach of competing long-distance (high-speed) railway services and yet attracted some 50 million passengers a year - i.e. as much as the 4th largest EU airport, Madrid-Barajas.

⁶⁴ Directive 2004/51/EC, amending Council Directive 91/440/EEC.

⁶⁵ Council Directive 91/440/EEC, as amended *inter alia* by Directive 2007/58/EC.

⁶⁶ Some Member States, such as United Kingdom, Germany, Sweden or Italy, have unilaterally opened their domestic markets.

obligations (PSO) are laid down in Regulation 1370/2007⁶⁷ which gives the possibility to competent authorities to exclude rail transport services from the obligation to award PSCs through an open tendering procedure. This means that most local and regional services, and certain long-distance services, are operated under PSO and attributed to operators through direct award. In addition, the actual impact of market opening depends on the specific requirements imposed for and within PSCs, making the call either attractive or disguisedly non-attractive for new entrants in tendering procedures (e.g. with the aim to protect the incumbent railway undertaking).

Infrastructure governance

The First Railway Package established a distinction between infrastructure managers (IM), who run the network, and railway undertakings (RUs), that use it for transporting passengers or goods. The legislation requires that infrastructure charging and capacity allocation, being key factors in opening up the market, must be performed independently of the incumbent RU so as to ensure fair and non-discriminatory access of all operators to infrastructure. Independence of essential functions of infrastructure management has to be ensured in legal, organisational and decision-making terms as to allow for all railway undertakings an equal access to infrastructure and related services. Member States must also have independent regulatory bodies in place to monitor railway markets and to act as an appeal body for rail companies if they believe they have been unfairly treated.

There are, however, problems with the transposition and enforcement of these requirements and the Commission has initiated several infringement procedures, on which it expects the Court of Justice of the EU to express its view by the spring 2013. The interactions between railway undertakings and infrastructure managers, where these independence rules have not been implemented, have created conflicts of interest still resulting in access barriers and market distortions at the expense of new entrants, such as access denials to infrastructure and discriminatory charges.

However, even where the existing legislation has been respected, there remain certain problems related to the use of infrastructure and related services. Partially these issues are expected to be solved through the more precise provisions provided in the Recast of the First Package, especially through the strengthened role of rail regulators. However, certain issues appear to require further legislative intervention. For instance, according to the structure and economics of the railway sector, it could be necessary for the purpose of efficient infrastructure management to keep certain IM functions together, rather than allowing them to be performed by separate (though independent) bodies (e.g. it could be useful to couple traffic management with planning of maintenance works). Furthermore, today the independence requirements apply only to the essential functions (infrastructure charging and capacity allocation), but it might be necessary to extend these requirements also to certain other activities of the IM crucial for competition, such as infrastructure investments planning, financing and maintenance. The optimal governance structure has also led to reflections on the degree of institutional separation between infrastructure management and service provision.

Interoperability and safety

Specific EU legislation exists to promote interoperability in order to overcome national historic differences in the field of technical specifications for infrastructure (gauge widths,

⁶⁷ Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road and repealing Council Regulations (EEC) Nos 1191/69 and 1107/70

electrification standards and safety and signalling systems⁶⁸). EU legislation also sets the framework for a harmonised approach to rail safety in the EU⁶⁹. Furthermore, it obliges the Member States to set up the system of national authorities, consisting of national safety authorities, notified bodies, national investigation bodies and regulatory bodies.

The European Railway Agency (ERA)⁷⁰, established by the Second Railway Package, plays a central role in promoting interoperability, harmonising technical standards, and developing common approach to safety, all requiring close interaction with the Member States and rail sector stakeholders.

While the level of safety on EU railways has gradually increased, and therefore safety levels as such are not an issue, stakeholders have drawn the Commission's attention to the fact that certain technical and administrative hurdles still persist, creating excessive administrative costs and market access barriers, especially for new entrants. This suggests that the highly decentralised system of railway authorities in place may not have fully coped with the European dimension of the rail services. Firstly, existence of largely non-transparent national technical and safety rules, which overlap and/or are in conflict with the EU legislation, creates unnecessary complexities for RUs. Secondly, there are marked discrepancies in how the national safety authorities (NSAs) conduct vehicle authorisation and safety certifications processes, some NSAs being less efficient and effective than others. This has led to reflections on how to further enhance the role of the ERA in the integration processes.

5. RATIONALE OF THE FOURTH RAILWAY PACKAGE

The main objective of the Fourth Railway Package is to enhance the quality and efficiency of rail services by removing remaining legal, institutional and technical obstacles, fostering the performance of the railway sector and its competitiveness. As announced by the 2011 White Paper, these issues will be addressed by the different initiatives in three main domains:

- **Domestic passenger market opening** – opening domestic rail passenger market to competition, including open access lines as well as the routes under PSOs;
- **Infrastructure governance** - ensuring that the infrastructure manager performs a consistent set of functions that optimises the use of infrastructure capacity, and its organisation guarantees non-discriminatory access to the infrastructure and rail related services.
- **Interoperability and safety** - removing remaining administrative and technical barriers, in particular by establishing a common approach to safety and interoperability rules to decrease administrative costs, to accelerate procedures, to increase economies of scale for RUs and to avoid disguised discrimination.

What about infrastructure?

Obviously, to contribute to the growth of the modal share of rail, new rail infrastructures need to be built across Europe. The 2011 White Paper calls for completing the European high-speed rail network by 2050, so that it would be fully connected to airports enabling the majority of medium-distance passenger transport to be performed by rail. Future EU strategy for infrastructure development has been already set out in the Commission proposals for

⁶⁸ Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community (Recast)

⁶⁹ Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 on safety on the Community's railways (Railway Safety Directive).

⁷⁰ Regulation (EC) No 1335/2008 of the European Parliament and of the Council of 16 December 2008 amending Regulation (EC) No 881/2004 establishing a European Railway Agency (Agency Regulation)

Connecting Europe Facility⁷¹ and the new TEN-T Guidelines⁷² and therefore remains out of the scope of the Fourth Package.

6. CONTENT OF THE FOURTH RAILWAY PACKAGE

The package consists of following elements in the three domains:

Domestic passenger market opening: amendments to:

- Council Directive 91/440/EEC on the development of the Community's railways as amended [or alternatively recast of the first railway package, when adopted]
- Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road

The initiatives will be accompanied by the [IA on access to domestic passenger rail markets].

Infrastructure governance: amendments to:

- Council Directive 91/440/EEC on the development of the Community's railways as amended and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure [or alternatively Recast of the first Railway Package, when adopted]

The initiatives will be accompanied by the [IA on the governance of railway infrastructure in the Single European Railway Area].

Interoperability and safety: amendments to:

- Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 on safety on the Community's railways
- Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community
- Regulation (EC) No 881/2004 of the European Parliament and of the Council of 29 April 2004 establishing a European Railway Agency

The initiatives will be accompanied by the IA on improving interoperability of the Single European Railway Area.

In addition the Fourth Package contains:

- a chapeau Communication, providing overall context and justifications for the package of proposals;
- an ancillary initiative repealing Regulation (EEC) 1192/69 on common rules for the normalisation of the accounts of railway undertakings, which has become obsolete and is inconsistent with EU law in force today.

⁷¹ Proposal for a Regulation of the European Parliament and of the Council establishing the Connecting Europe Facility, COM(2011) 665 final – 2011/0302 (COD)

⁷² Proposal for a Regulation of the European Parliament and of the Council on union guidelines for the development of the Trans-European Transport network, COM/2011/0650 final/2 - 2011/0294 (COD).

7. OBJECTIVES OF THE FOURTH RAILWAY PACKAGE

The analysis conducted by the Commission shows, that the operational inefficiencies and quality issues of rail services are mainly caused by low degree of competition, remaining market distortions and suboptimal structure of EU rail market. Underlying reasons – long and costly procedures, access barriers for new entrants and different market access rules in Member States – will be addressed from different angles by all the Fourth Package initiatives.

Given that, the initiatives in the Fourth Package are complementary, they all contribute to the same general objective of improving the competitiveness of rail sector vis-à-vis other modes. In addition, some specific objectives are also similar of the initiatives, e.g. facilitating entrance of new operators into the market. The operational objectives are unique for each domain of action. The table below demonstrates how the different elements fit together.

Figure I-2: Summary table of the objectives of the Fourth Railway package initiatives.

	Domestic passenger market opening	Infrastructure governance	Interoperability and safety
General objective	Improve the quality of rail passenger services and enhance its operational efficiency ...	Improve the operational efficiency of infrastructure and the access to infrastructure	Eliminate existing administrative and technical barriers ...
	... thereby enhancing the competitiveness of rail sector vis-à-vis other modes and developing further the Single European Rail Area.		
Specific objectives	SO1: Ensure freedom of entry into domestic rail passenger markets	SO1: Improve the IM ability to manage efficiently the infrastructure to the benefit of the users	SO1: Facilitate entrance of new operators into market
	SO2: Create more uniform business conditions	SO2: Eliminate conflict of interest and discrimination in decisions and operations of the IMs	SO2: Reduce administrative costs of railway undertakings
	SO3: Better value for public money spent on public transport services		

8. OPTIONS AND MAIN IMPACTS

To achieve these objectives, all IAs will consider a range of different options, which ultimately should improve the operational efficiency and quality of rail services.

The IA for the domestic passenger market opening would propose and assess options on how the interaction of access conditions between open access services and services under PSC should be arranged. The IA would also discuss different criteria for the design of PSC and analyse a possibility of introducing mandatory competitive tendering for PSC. The aim of these options would be to open the domestic rail market to competition, which should lead more passenger friendly services and better use of public money. In order to enhance the positive effects of market opening, the IA would analyse also additional options for 'framework conditions', such as access to rolling stock, through-ticketing and inter-availability of train tickets of different RUs.

The IA for the infrastructure governance initiative would study two dimensions of options: on the one hand, what functions should be included in the portfolio of an 'ideal IM' in order to optimise its operational and investment decisions, and on the other hand, how should the separation between the IM and RUs be enhanced in order to ensure equal level playing field for the access to infrastructure and the related services. As a result, new-entrant RUs should get a better access to infrastructure and related services, at the same time the efficiency of infrastructure utilisation at national and EU level should increase.

The IA under the interoperability and safety pillar would assess several 'institutional' options on the level of interaction between ERA and national authorities with the aim to (a) enhance the effectiveness and efficiency of safety certification and rolling stock authorisation processes and (b) reduce complexity caused by excessive national railway rules. As a separate option, a set of additional horizontal measures would be considered, which on their own could achieve the mentioned objectives, but could also be applied on top of the institutional options to reinforce the overall impact of reduced administrative costs/less fragmented markets.

These policy options and their impacts will be presented and assessed in detail in the respective IAs.

9. EXPECTED SYNERGIES OF THE PACKAGE

The idea of the proposed package approach is that there are synergies to be achieved via the combined effects of the individual initiatives. Some examples of such synergies are provided below.

- Effectiveness of *de jure* market opening depends on allowing for certain 'framework conditions', such as access to infrastructure, rolling stock, stations, train path allocation, etc. Some of these framework conditions will be addressed within the domestic passenger market opening initiatives, while the others via the proposal on infrastructure governance.
- One way to improve rolling stock availability is to support development of rolling stock leasing market (as considered under in the domestic passenger market opening IA). However, a necessary condition for that is more standardised equipment and the on-going standardisation process⁷³ is expected to be enhanced by the European "passport" for vehicles, considered within the interoperability and safety initiatives.
- All initiatives would, in their own terms, contribute to a more predictable business models for RUs operating across the borders of EU Member States:
 - interoperability initiative by harmonising approach to safety certification and authorisation of rolling stock,
 - market access initiative by introducing universal licence for provision of passenger services throughout the EU and setting common principles for PSO definition, and
 - infrastructure governance initiative by proposing a more harmonised institutional setup of infrastructure managers in different Member States.
- Better infrastructure governance should improve the operational efficiency of railways and possibly allow an improvement in travel times for passengers and freight.

Overall, the different operational gains expected as a result of each initiative should allow a better value for public money, on which the functioning of railways is still heavily reliant.

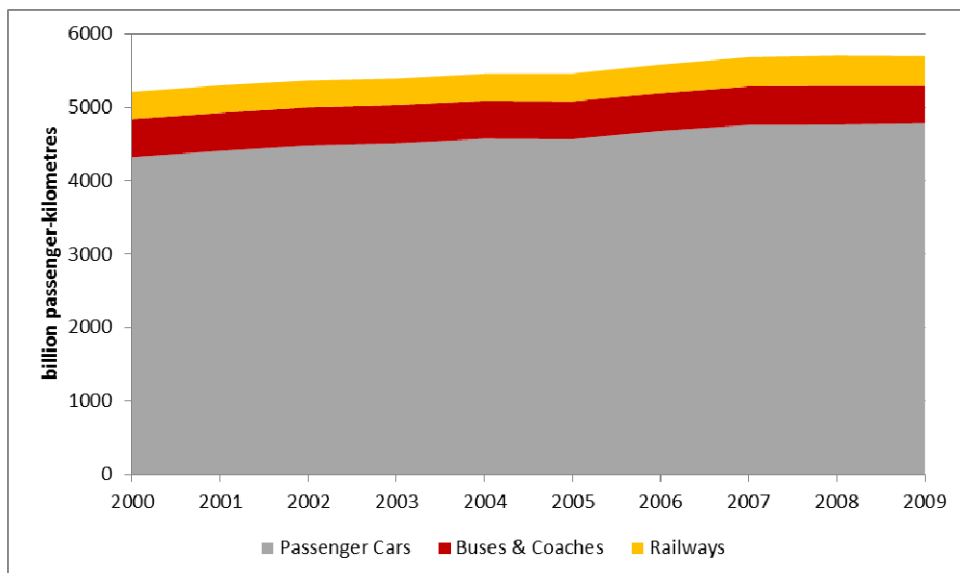
⁷³ As the result of the changes induced by the Technical Specifications for Interoperability (TSIs) decision.

ANNEX II FUNCTIONING OF THE RAILWAY MARKET

Over the past decade, the European rail market has witnessed a range of changes to its structure, with the aim of improving services to passengers through the creation of an internal market. The market for freight and for international passenger trains has now been opened. Moreover, some countries have opened their domestic services to competition, either through the introduction of open access operators, or through the competitive tendering of public sector contracts.

Despite this progress, the performance of the rail sector compared to other transport modes is not yet satisfactory. In the rail passenger sector, the quality of rail services does not always keep pace with the evolving needs of passengers in terms of reliability, comfort, speed, resilience to delays and the environment. The Commission's annual Consumer Markets Scoreboards show that the market for train services is perceived by EU consumers as one of the poorest performing service sectors. In 2012, the market ranks 27th out of 30 services markets (for comparison airline services and local public transport have the 5th and 13th place in the ranking, respectively)⁷⁴. In many circumstances the price/quality ratio of the services offered by railway undertakings is perceived by passengers as insufficient and they opt for alternative modes of transport, in particular road transport for short distance and commuting journeys, air transport for long distance services. As a result, the share of rail in the EU passenger transport market has remained low and relatively unchanged. This trend is illustrated in the figure below, where rail's share of the overall market (in terms of passenger km) amounted to only 6% in 2009, while the private car accounted for some 73%, the same shares registered back in 2000.

Figure II-1: Road and rail passenger volumes in the EU-27



Source: Eurostat, International Transport Forum, Union Internationale des Chemins de Fer, national statistics

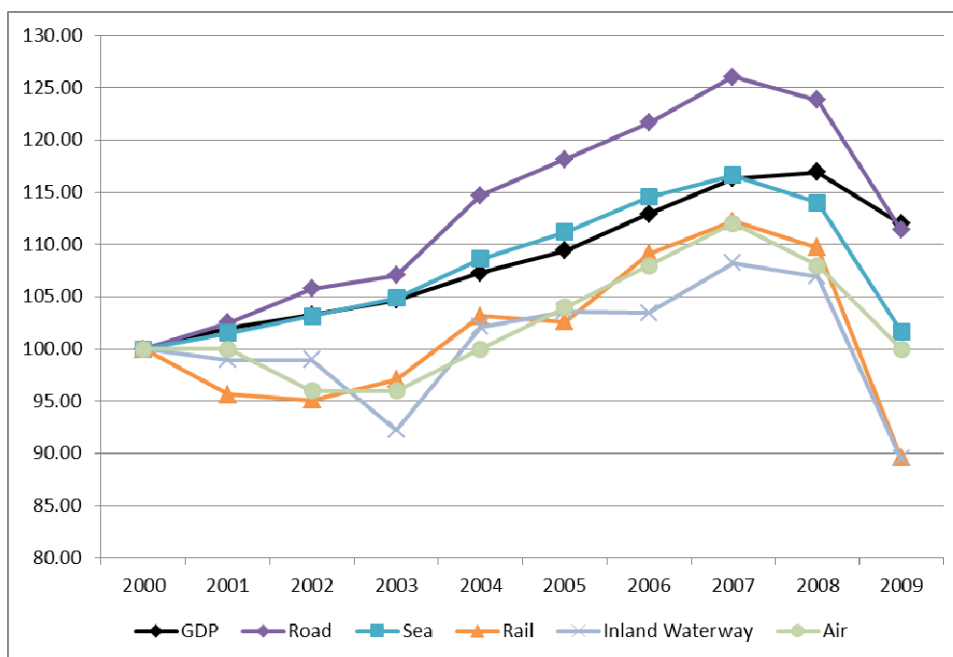
These overall trends mask significant differences between Member States. Rail passenger traffic in the EU-15 increased by 16% between 2000 and 2009, with countries such as the UK,

⁷⁴ The Consumer Markets Scoreboard ranks 21 goods and 30 services markets based on how well they are functioning for consumers in terms of (1) ease of comparing offers, (2) consumer trust in retailers/providers to comply with consumer protection rules, (3) experience of problems and the degree to which they have led to complaints and (4) overall consumer satisfaction. See http://ec.europa.eu/consumers/consumer_research/cms_en.htm.

Sweden and Belgium experiencing growth in excess of 30%. This contrasts with a fall in traffic of 25% in the EU-12 as a whole and falls of more than 35% in Romania, Lithuania and Bulgaria. The wide divergence in consumers' assessment of railway services across EU countries is confirmed by the most recent Consumer Markets Scoreboard⁷⁵, which shows that the market performs better in the EU-15 than in the EU-12, with the lowest scores in Italy, Poland, Romania, Bulgaria and Sweden. A wide range of external factors have contributed to these diverging trends, including economic growth, trends in oil and petrol prices, demographic trends, structural adjustments in many of the EU-12 countries (notably increased car ownership in response to rising living standards) and on-going difficulties in securing public funding for rail services. Nevertheless, rail's inability to compete with road reflects widely perceived shortcomings in a number of aspects of the service provided on many routes, including journey times, service frequency and reliability and other aspects of service quality. Inadequate investment has also meant that many rail services have failed to keep pace with passenger expectations of service quality, for example in terms of the application of new ticketing and information technology and the quality of the environment at stations and on trains.

In the freight sector, rail accounts for a little over 10% of tonne-kilometres transported. The figure below shows that freight volumes transported by rail grew by little more than 10% between 2000 and 2007, declining thereafter along with other types of freight transport as a result of the global recession.

Figure II-2: Changes in freight transport volumes and GDP in the EU-27



Source: Eurostat, International Transport Forum, Union Internationale des Chemins de Fer, national statistics

Again, the relative performance of rail in EU freight markets has varied significantly between different Member States. Across the EU as a whole, road-based freight accounted for over 75% of freight volumes transported by land in 2009. However, while the corresponding mode share in the EU-15 remained broadly constant at 80%, over the ten years to 2009 the share in the EU-12 increased from 14% to 40%. Moreover, rail freight movements in the EU-12 fell by 15% over the same period, with Bulgaria, the Czech Republic, Estonia, Romania and Slovakia, all experiencing falls in freight volumes by rail well in excess of 20%.

These trends support the view that both rail passenger and freight services have failed to respond effectively to competition in road transport. Passenger rail services in some countries

⁷⁵ 8th Consumer Markets Scoreboard, 2012, Commission, DG SANCO

have benefited from economic trends encouraging greater rail use, yet, as a whole, the sector has failed to compete with the greater flexibility offered by car travel, notwithstanding greater congestion, increased motoring costs and other factors that might have been expected to improve rail's competitive position.

In the EU-15, rail freight has established a market niche, maintaining its share of overall freight movements over a sustained period but failing to capitalise on the opportunities presented by strong economic growth and increasing road congestion over the last decade. In the EU-12, the high share of rail freight at the beginning of the decade has been steadily eroded by the growth of road freight, which offers freight customers greater flexibility as well as competitive journey times and prices.

In principle, rail freight markets within the EU have been opened for a number of years, and the industry's lack of competitiveness cannot therefore be simply explained by the existence of legal barriers of the kind that continue to restrict competition in domestic passenger services. The problem to be addressed therefore also needs to be defined in terms of technical, physical capacity and institutional barriers, which have frustrated action to open markets taken at the EU level. Such barriers will also need to be reduced if the benefits of liberalisation of passenger markets are to be addressed.

To complete the picture, it is useful to provide information on market share of new entrants. In 2010 the situation was the following⁷⁶: AT 14,6%, BE 11,82%, BG 21,6%, CZ 13,16%, DE 25%, DK 25%, EE 45%, ES 8,08%, FI 0%, HU 19,47%, IE 0%, LT 0%, LU 0%, LV 23,3%, NL 40%, PL 35,82%, RO 54,7%, SE 40%, SI 0%, SK 2,03%, UK 51,4%.

⁷⁶ Data from 2012 Report from the Commission to the Council and the European Parliament on monitoring development of the rail market

ANNEX III

FUNCTIONNING OF NATIONAL INSTITUTIONS

1. National Safety Authorities

National Safety Authorities (NSA) are defined by Directive 2004/49/EC on safety on the Community's railways as :

“the national body entrusted with the tasks regarding railway safety in accordance with this Directive or any bi-national body entrusted by Member States with these tasks in order to ensure a unified safety regime for specialised cross-border infrastructures” (Article 3 of Directive 2004/49/EC).

NSAs need to be independent from railway undertakings, infrastructure managers, applicants for certificates and procurement entities (Article 16 Directive 2004/49/EC).

Role of National Safety Authorities

The main tasks of NSAs are set out in Article 16 of Directive 2004/49/EC (as amended by Directive 2008/57/EC, Directive 2008/110/EC and Directive 2009/149/EC), also referred to as “the Safety Directive”. In summary, these tasks comprise:

1. authorising the bringing into service of the structural subsystems constituting the trans-European high-speed rail system in accordance with Article 15 of Directive 2008/57/EC and checking that they are operated and maintained in accordance with the relevant essential requirements;
2. authorising the bringing into service of the structural subsystems constituting the trans-European conventional rail system, in accordance with Article 15 of Directive 2008/57/EC and checking that they are operated and maintained in accordance with the relevant essential requirements;
3. supervising that the interoperability constituents are in compliance with the essential requirements as required by Article 19 of Directives 2008/57/EC;
4. authorising the placing in service of new and substantially altered rolling stock that is not yet covered by a TSI;
5. the issue, renewal, amendments and revocation of relevant parts of safety certificates and of safety authorisations granted in accordance with Articles 10 and 11 and checking that conditions and requirements laid down in them are met and that infrastructure managers and railway undertakings are operating under the requirements of Community or national law;
6. monitoring, promoting, and, where appropriate, enforcing and developing the safety regulatory framework including the system of national safety rules;
7. supervising that rolling stock is duly registered and that safety-related information in the national register, established in accordance with Article 15 of Directive 2008/57/EC, is accurate and kept up-to-date.

Article 17 of the Safety Directive (and subsequent amendments) establishes that NSAs shall carry out their tasks in an open, non-discriminatory and transparent way. They should promptly respond to requests and applications and communicate its requests for information without delay and adopt all its decisions within four months after all requested information has been provided. Moreover, NSAs shall be free to carry out all inspections and investigations that are

needed for the accomplishment of its tasks and be granted access to all relevant documents and to premises, installations and equipment of infrastructure managers and railway undertakings.

Article 18 of the Safety Directive requires that NSAs publish an annual report concerning their activities in the preceding year and send it to the ERA by 30 September at the latest.

NSAs in EU Member States

Different Member States have adopted different solutions regarding the establishment of the NSA. The table below summarises the role of each NSA in the five case studies performed for the impact assessment support study. The majority of the analysis and evidence for this Annex is drawn from the case studies conducted by the external consultant.

The case studies illustrate that in some Member States, NSAs are integrated with Transport Ministries (e.g. Germany) or are a separate body under the control of the Transport Ministry (e.g. Italy). While in other cases they are part of an independent authority with responsibility for, amongst other things, the regulation of the sector (e.g. Hungary and Poland). All these arrangements are compliant with the Safety Directive, which requires the independence of NSAs from railway undertakings, infrastructure managers, applicants for certificates and procurement entities only. However, when NSAs are part of a wider institution that encompasses Regulatory Bodies (RB), as with the Hungarian and Polish authorities, some stakeholders raised concerns. In Hungary some operators noted that they do not make recourse to the RB in case of problems with the NSA, as these are part of the same organisation, hence their mutual independence is questionable. A similar concern was raised in Poland, where the NSA and the Regulatory Body are integrated within the same authority, the UTK. It should be noted that no such concern was raised in the UK which has a similar structure.

Table III-1: Case Study NSAs: staff and budget

		Germany	Hungary	Poland	Italy	France
Staff headcount		1,050	54	180 (*)	100	101
Budget (m)	Revenue (2010)	€3.0	€1.6	€4.4 (*)	€1.9	€1.3
	Cost (2010)	€1.4	€			

Note: () Total for UTK, which is both RB and NSA. No figures available for NSA activities only*

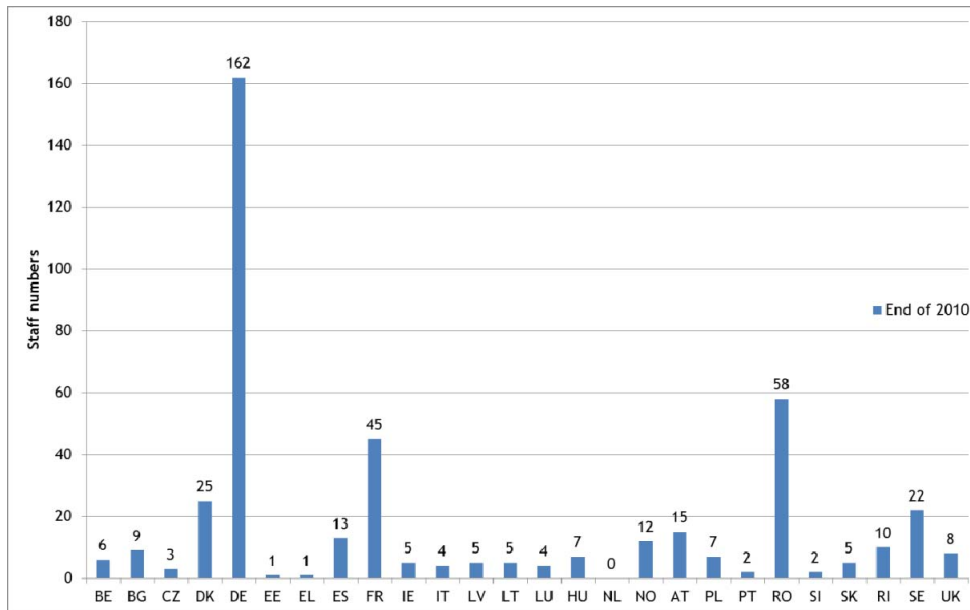
NSA organisation

The case studies reveal that the number of staff and budget of NSAs varies significantly across Member States and in a number of interviews NSAs claimed to be understaffed. Recent data published by ERA on NSA staff involved with interoperability (see below) confirms the heterogeneity of the amount of human resources across NSAs in EU Member States. The data highlights that, in view of the complexity and workload of interoperability related activities, countries with fewer than five people working in this area may face challenges.

As described in the ERA Interoperability Report⁷⁷, differences in size of NSAs may reflect their different responsibilities, and the size of the respective railways. For example, the German NSA may require more staff to process authorisations due to the specific Länder system of regional government as well as the presence of a high number of passenger and freight RUs.

⁷⁷ European Railway Agency Interoperability Report 2011

Figure III-1: Numbers of NSA staff directly involved with interoperability



Source: ERA Interoperability Report, 2011

Other issues of concern for NSAs are the independence of decision making staff and their level of technical capability. In the case of the French EPSF, around 50% of its technical staff are on secondment from SNCF. Some stakeholders have questioned whether this can compromise their independence, although the NSA itself strongly disputes allegations of partiality by seconded staff.

The technical capability of staff is a separate issue. Again in France it was noted that many expert EPSF specialists are approaching retirement and are likely to be replaced with staff with less relevant experience or understanding of the rail sector. Similarly, the Hungarian NKH is concerned that at present it is not able to attract suitably qualified staff, due to the low salaries which it is able to offer.

The difficulties surrounding NSA staff recruitment is mentioned in the ERA Interoperability Report 2011. All NSAs in the EU, except in Denmark and the UK, experience problems in this area. The report indicates that the most problematic issues are less attractive NSA salaries and the limited number of rail experts in the labour market. The latter is related either to the specifics of the national educational system, which does not supply sufficient numbers of graduates with technical railway knowledge, or to the competition for qualified staff from the rail industry, which may provide better salaries.

NSA operations

Safety certificates

From the 1st January 2011, the Railway Safety Directive 2004/49/EC (and subsequent amendments) required RUs to hold a safety certificate in order to be granted access to railway infrastructure. The responsible authorities for issuing these certificates are the NSAs. The safety certificate has two parts:

- A Part A: the acceptance of a Railway Undertaking's Safety Management System as described in Article 9 and Annex III of Directive 2005/49/EC. The Part A certificate is valid throughout Europe providing the type and extent of the operation is unchanged. NSAs are therefore required to accept Part A certificates issued by other

Member State NSAs should the RU request to operate on a different network within Europe.

- B** Part B: the acceptance of provisions adopted by the RU to meet requirements necessary for safe operation, as described in Annex IV of Directive 2004/49/EC. These cover compliance with network specific requirements for staff competence and management of rolling stock. The Part B certificate states the ability of the RU to comply with network specific rules applied in the Member State in which the RU operates. Therefore an RU can have a single Part A certificate but as many Part B certificates as the Member States in which it provides services.

As indicated by a study commissioned by the European Railway Agency, different NSAs have different approaches regarding the issuing of safety certificates. This is determined either by: divergent interpretation of EU legislation or by different operating approaches, technical capabilities and the amount of resources dedicated to these activities.

One of the key findings from the ERA 2010 study on migration towards single safety certificate⁷⁸ was that different approaches are used by NSAs for the release of safety certificates. In particular:

- There was no consistent assessment process to ensure that NSA decisions were harmonised, or at least followed similar approaches;
- NSA resources and activities were not always targeted on those areas or operators who created the biggest risks; and
- The NSA processes or procedures were not always found to be transparent, making it difficult for RUs to understand what was expected of them;
- There were problems in the transparency and application of National Safety Rules.

For example one stakeholder, representing different RUs, pointed out in a recent workshop that there are examples of NSAs not accepting Part A certificates released in other Member States and tend to “overregulate” Part B to cover national rules from part A. The 2010 Interfleet report also indicated that a small number of NSAs did not conform to the process and timelines set out by the EU Safety Directive, of issuing certificates within four months. This was also confirmed in the case studies. Interestingly, the Interfleet report claims that even for those NSAs who state they meet the four month deadline, there is scope for them to extend this period artificially by “procrastinating” over advising the RU on what documentation to submit and how.

There is great variation in the fees charged to RUs for the issuing of safety certificates with countries that issue it for free (Sweden and Great Britain) and others charging up to €70,000 in some circumstances. The following table shows the comparative fees charged for the release of safety certificates based on the information provided by The Rail Liberalisation Index 2011 and those collected in the undertaken case studies for this Impact Assessment.

Table III-2: Comparative fees of safety certificates

Country	Cost of safety certificate (€)	Source (*)
Sweden	0	A
UK	0	A
Czech Republic	40	A

⁷⁸ http://www.era.europa.eu/Document-Register/Documents/development_of_a_migration_strategy_towards_a_single_safety_certificate.doc

Country	Cost of safety certificate (€)	Source (*)
Slovakia	100	A
Estonia	639	A
Romania	1,000	A
Slovenia	1,418	A
Bulgaria	3,270	A
Denmark	3,700. . The total sum varies depending on the work required	A
Poland	5,000 (Part A); 2,100 (Part B)	B
Portugal	5,000	A
Hungary	In the range of 3,600 – 6,900 according to the amount of vehicles of the RUs.	B
Austria	10,000	A
Spain	10,000	A
Belgium	7,000-15,000	B
Greece	30,000	A
Italy	30,000	A/B
Netherlands	30,000	A
Finland	The fees for issuing the safety certificate are calculated according to the workload involved. . The hourly rate currently charged is €140 per hour	A
Germany	The fees for issuing the safety certificate are calculated according to the workload involved. The German case study indicates up to €70,000.	B

Note: (*) A: IBM (2011) Rail Liberalisation Index 2011⁷⁹; B: Steer Davies Gleave case studies

Authorisation of rolling stock

The authorisations for placing in service of vehicles (including also authorisations for types of vehicles) are issues by the NSAs. A distinction can be made between the first and additional authorisations, as well as authorisations for TSI-conform and non-TSI-conform vehicles. In theory, the first authorisation shall be valid in all Member States without further checks for fully TSI-compliant vehicles running on TSI-confirm networks; additionally, these TSIs must be without specific cases and open points relating top technical compatibility between vehicle and the network. Therefore in practice additional authorisations are needed in a large majority of cases.

As a consequence – and as with safety certificates – there is great variation in both the time required and cost charged by NSAs, to issue vehicle authorisations.

⁷⁹

http://www.deutschebahn.com/site/shared/en/file__attachements/position__papers/study__rail__liberalisation__index__2011__complete__version.pdf

In this case, however, in addition to the administrative fees charged by NSAs, the cost is impacted by the significance of tests and documentation involved which makes it difficult to identify the exact amount of authorisation costs. The Rail IBM Liberalisation Index provides a variety of data which is often difficult to compare: for some countries it reports the cost of the overall procedure of homologation (understood to mean vehicle authorisation), for other countries the figure provided is the administrative fee only (leaving out costs of tests and documentation to produce).

The ERA “Report on Vehicle Authorisation” (2011) indicates total additional authorisation costs of around €1.6 m per vehicle, however significant variation across Member States and type of authorisation were encountered.

2. Notified Bodies

The role of NoBos

According to article 2j of the Interoperability Directive (2008/57/EC), Notified Bodies (NoBos) are: “The bodies which are responsible for assessing the conformity or suitability for use of the interoperability constituents, or for appraising the EC procedure for verification of the subsystems”.

This verification, based on Technical Standards for Interoperability (TSIs) must enable the authorities responsible for authorising the putting into service of subsystems to be certain that at the design, construction and putting into service stages, the result is in line with the regulations, technical and operational provisions. It must also enable manufacturers to be assured of equality of treatment, whatever the country. According to Article 13 of the Interoperability Directive “where the corresponding TSI so requires, assessment of the conformity or suitability for use of an interoperability constituent shall be carried out by the notified body with which the manufacturer or his authorised representative established in the Community has lodged the application”.

As set out by Article 18 of Directive 2008/57/EC, the task of the Notified Body responsible for the “EC” verification of a subsystem begins at the design stage and covers the entire manufacturing period through to the acceptance stage, before the subsystem is put into service. It also covers verification of the interfaces of the subsystem in question with the system into which it is incorporated, based on the information available in the relevant TSI and in the national registers of infrastructure and of rolling stock. Notified Bodies are required to meet the assessment criteria provided in the relevant European standards, and are selected by Member States by applying the criteria provided in Annex VIII of Directive 2008/57/EC. A Member State can withdraw approval from a body which no longer meets the criteria referred to in Annex VIII, which sets out the minimum criteria which must be taken into account by the Member States when notifying bodies.

The Directive 2008/57/EC establishes that the Notified Body responsible for checking production must have permanent access to:

- building sites, production workshops, storage areas;
- where appropriate, prefabrication or testing facilities; and
- more generally, to all premises which it considers necessary for its task.

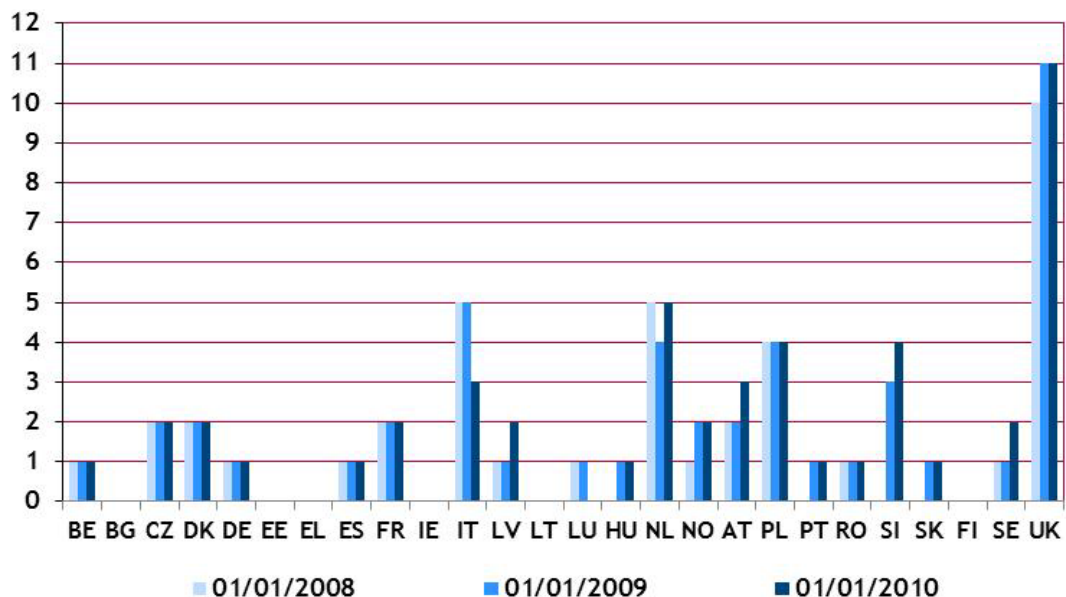
In addition, the Notified Body may pay unexpected visits to the worksite or to the production workshops of the manufacturer/relevant applicant. At the time of such visits the Notified Body may conduct complete or partial audits.

The Notified Body must be independent of the applicants and ensure the independence of the staff responsible for the checks.

NoBos organization and operation in the EU Member States

According to the ERA Interoperability Report 2011, the total number of Notified Bodies as of 1 January 2010 was 49, an increase of 4.3% compared with the situation on 1 January 2009.

Figure III-2: Number of Notified Bodies under Directive 2008/57/EC by Member State



Source: ERA Interoperability Report, 2011

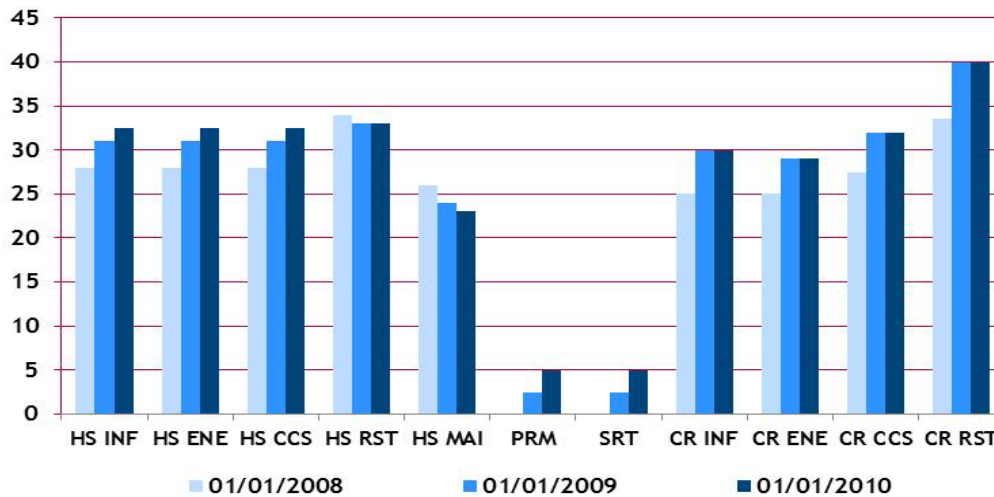
NoBos are not present in all of the relevant EU Member States. As of 1st January 2010, 18 Member States and Norway have established at least one Notified Body. With a total of 11 established Notified Bodies, the UK takes the lead in the EU, followed by The Netherlands and Slovenia with five and four notified bodies respectively.

As discussed in the Interoperability Report, competition between the Notified Bodies is on a regional rather than a European scale, as language is a key asset to the business. The few examples of competition are present only in those countries which use the same language. For example both Belgian and French Notified Bodies have successful contracts with French and Belgium companies respectively in both Member States.

Of the 49 Notified Bodies across the Member States, 42 operate under both the High Speed and Conventional Directives, one only under the High Speed Directive, and six only under the Conventional Network legislation.

The number of Notified Bodies competent to carry out conformity assessment against the PRM TSI and TSI relating to Safety in Tunnels appears to be relatively low, as shown in the figure below. According to the Interoperability Report, in the last two years only four countries, Austria, Czech Republic, Hungary and The Netherlands, notified conformity assessment bodies with a specific indication of their competence for TSIs PRM and SRT. During the IA support study the consultant was informed that, following the publication of the Interoperability Report, a further NoBo for these aspects has been authorised in France. The number of Notified Bodies competent for TSIs PRM and SRT is expected to increase considerably with the re-notification of the Notified Bodies required by Directive 2008/57/EC.

Figure III-3: Number of Notified Bodies under Directive 2008/57/EC by subsystem/TSI



Source: ERA Interoperability Report, 2011

The case studies undertaken have provided a more detailed picture of the organisation and operation of Notified Bodies.

In Germany, the tasks of the Notified Body (NoBo) are carried out by EISENBAHN-CERT (EBC). EBC is an autonomous organisation under public law and acts as a financially and legally independent department of the EBA. The main tasks of EBC are to assess the conformity or suitability for use of the interoperability constituents and to carry out EC-verification of subsystems. The close connection between the German NoBo and the NSA does not ensure a smooth authorisation process. Some stakeholders expressed concern that on occasions the documents that have been provided by the German NoBo have not been automatically accepted by the NSA and they have been rechecked leading to an increase in costs and timescales for authorisations.

French Notified Bodies have been recognized as having a good technical knowledge but some stakeholders have had some difficulties with their work. In the UK, stakeholders pointed out that the pricing by some NoBos for the same work can be highly variable, perhaps on the grounds of available capacity at the time.

One stakeholder claimed that some Notified Bodies try to avoid their obligations and reduce prices in order to win calls for tenders or just to simplify processes for their usual customers from whom they are not truly independent. As a result, the quality of work of some NoBos has been questioned by NSAs, and the validity of their certificates is not recognised. As a consequence the NSAs require repeat verifications, contrary to Article 11 & 16 of Directive 2008/57/EC.

ANNEX IV NATIONAL RAILWAY RULES

The railways across Europe have developed as islands over the past century with each Member State choosing to adopt their own national standards (or in some cases multiple, competing, national standards) with little thought for the effects of integration across borders. These rules act as a barrier for the growth of the rail sector in terms of:

- Availability of rolling stock that can cross borders; and
- Getting vehicles and equipment authorised to operate in a number of Member States.

National rules can be divided into National Technical Rules (NTRs) and National Safety Rules (NSRs). The Agency is currently facilitating the process of notification of NTRs by the MS with the ultimate goal of removing the majority, if not all, NTRs. However, the process is slow with substantive progress restricted to a subset of NTRs. Given this, it is difficult to obtain a clear picture of what NTRs exist in different Member States, let alone understand which ones are no longer relevant and can therefore be removed. There is also a substantial number of NSRs. There is a more advanced process in place for the notification of national safety rules (relative to NTRs) and a NSR task force is currently working on further progress in this area.

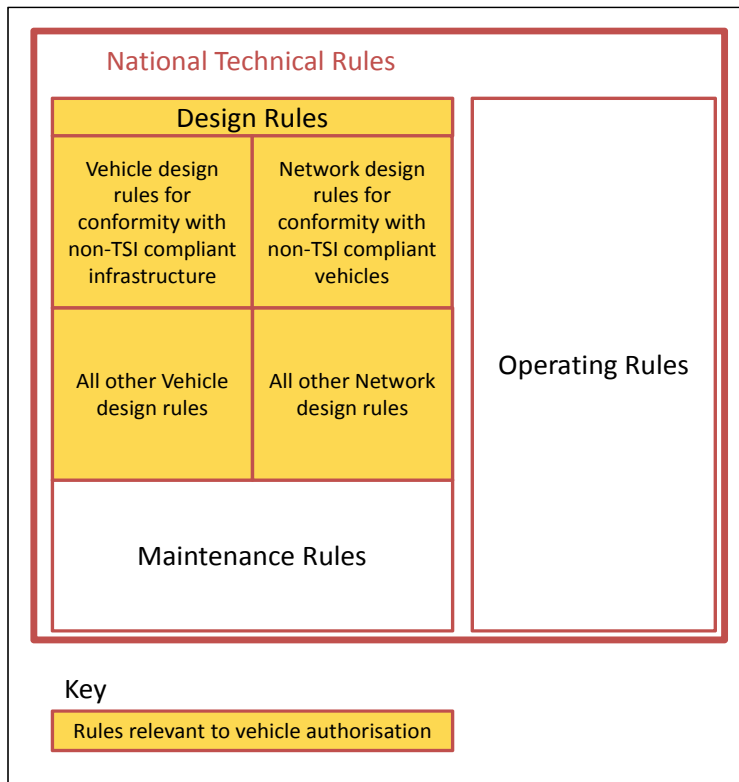
1. Scope of national technical and safety rules

National technical rules

NTRs are covered by (i.e. will be replaced by) TSIs except where there is non-TSI conforming rolling stock and non-TSI conforming infrastructure. The complete scope of national technical rules is illustrated in the figure below with more detail illustrated for those rules relevant to vehicle authorisation. The key categories of technical rules are design rules (i.e. rules covering structural sub-systems), maintenance rules (i.e. functional sub-system maintenance) and operating rules (i.e. functional sub-system operations).

Within each of these categories there are rules for networks and vehicles and a further division into rules that have been superseded by TSIs and national rules that are required whilst non-TSI compliant rolling stock and non-TSI compliant networks are in place.

Figure IV-1: National technical rules schematic



National safety rules

Safety Rules are covered by Annex 2 of Directive 2004/49/EC (and subsequent amendments), with some overlap of technical and safety rules in the operational rules area.

2. Current number of national rules (both explicit and implicit)

National technical rules

ERA has calculated that there are approximately 320 parameters required to describe all aspects to be checked for vehicle authorisation based on TSIs and NTRs currently in place. Of these 320 parameters, approximately 120 relate to network compatibility. Using this as a basis (i.e. that there is a rule for each parameter) it is possible to calculate the number of vehicle technical rules and network technical rules relevant to the movement and operation of trains, both explicit and implicit. There is no clear picture available for the number of maintenance and operational rules.

National safety rules

The majority of NSRs have been notified and therefore there is a reasonable understanding of the quantity of rules notified as national safety rules. Due to variations in understanding, it is likely that not all of these rules actually qualify as NSRs and that some may not be legitimate, if, for example, they prohibit free movement of goods and services. In addition, many of the NSRs notified by Member States are actually Safety Management System (SMS) rules.

The Agency has expressed the view that the majority of the 1,200 NSRs that have been notified are actually SMS rules and therefore can be removed. However, there are no robust estimates available of the size of the residual.

The number of NTRs and NSRs in each category where information is available is set out in the table below.

Table IV-1: Total number of national rules

Category of rules	Number of rules
Safety rules	1,200
Vehicle design technical rules – to be covered in future by TSI (when scope is extended)	7500 (300 x 25)
Vehicle design technical rules to be covered in future by TSI (currently open points)	2000 (80 open points x 25)
Vehicle design technical rules – non-TSI required for compatibility with non-TSI conform networks	3000 (120 x 25)
Network design technical rules (relevant for vehicle-network interface)	3000 (120 x 25)
Total National Rules currently quantified	11,700
Technical operational rules	400 (very high level estimate provided by Agency)
Technical rules for Maintenance	400 (very high level estimate provided by Agency)
Other Network rules	Unknown

3. National Rule Datasets and the process of transparency and elimination

The current status of information that is available at the EU level on national rules is as follows:

- The DG Enterprise and Industry TRIS database contains draft product rules captured under the Directive 98/34 procedure. This should have been used to notify draft national technical rules for design. At the moment it contains a small portion of national rules.
- The NOTIF-IT database held by DG MOVE contains most national safety rules (largely complete for 20 out of 25 Member States). Virtually no national technical rules are currently notified in this database.
- The Agency holds National reference documents which contain all national vehicle design rules for all Member States (except Germany, which is expected very shortly).

4. Timescales for removal of national rules

Based on the current interoperability and safety legislation, the Agency has been internally considering the process for removal of unnecessary national rules in parallel with this report. This meant that whilst a formally documented process for removal did not exist in time to support the analysis of this IA, the process and timescales for removal of national rules have been discussed with the Agency.

The requirements for the complete removal of NTRs are:

- All TSIs are complete (all open points closed and Member State specific points removed)
- TSIs implemented in all MSs for all lines (extension of scope)
- All railway networks and vehicles conform to TSIs.

The removal process for NSRs is more advanced than for NTRs with the majority of notification having already taken place as already noted. However, identification of appropriate extent of NSRs still needs to be determined and the NSR taskforce is still in process. Therefore, for NSRs some clean-up of rules will be required in the future. The envisaged process for the removal of all unnecessary national rules is illustrated in figures below; it should be noted that smooth cooperation with Member States would be indispensable.

Figure IV-2: Process for removing national technical rules

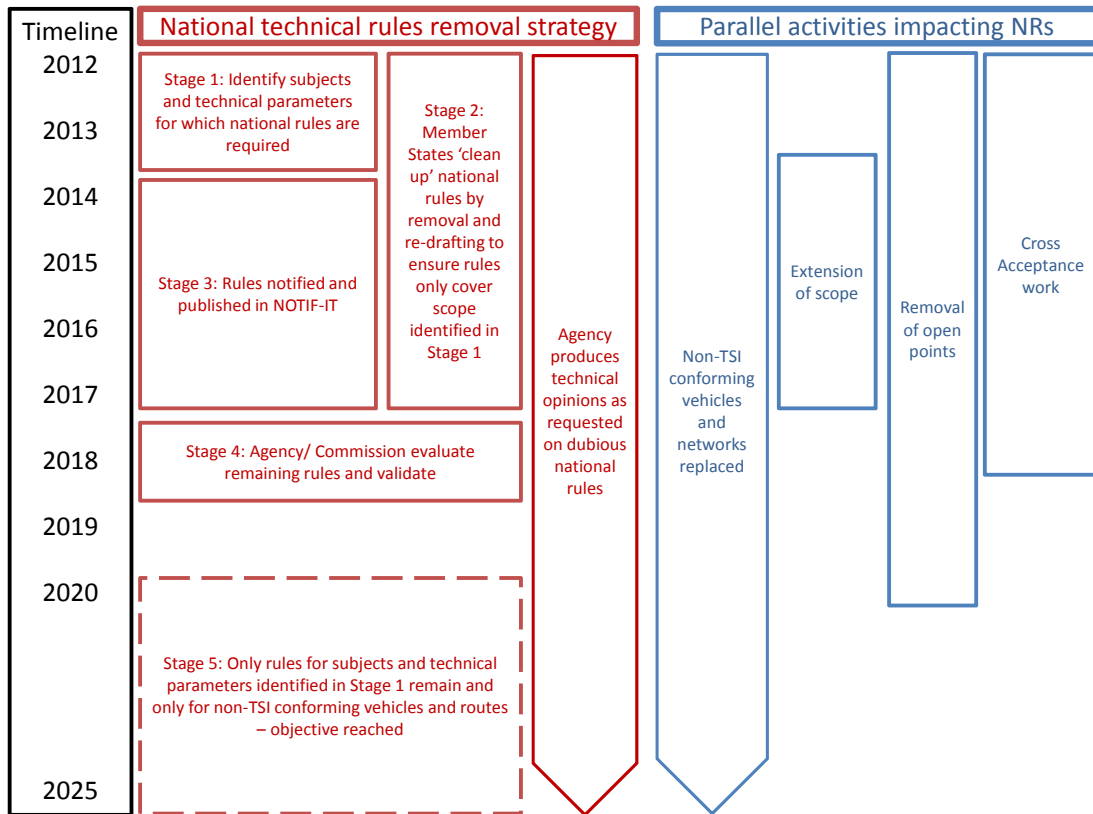
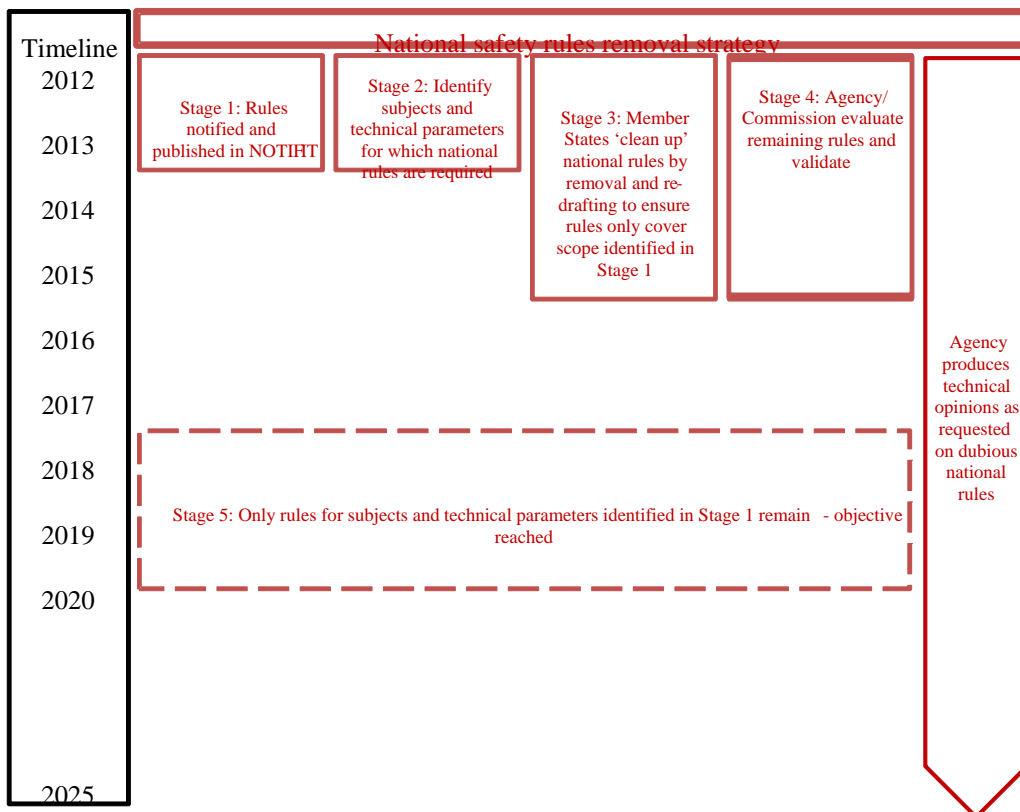


Figure IV-3: Process for removing national safety rules



ANNEX V CONSULTATION OF STAKEHOLDERS

1. List of stakeholders consulted

The following organisations/persons have been consulted:

- Representative bodies at the European level (referred to in Article 3 of the ERA Regulation) representing: the manufacturing companies, the railway undertakings (the operators), the infrastructure managers, the wagons owners/keepers, the freight customers, and workers and passengers: ALE (Autonome Lokomotivführer-Gewerkschaften Europa), CER (Community of European Railways and Infrastructure Companies), EIM (European Infrastructure Managers), EPTTOLA (European Passengers Train and Traction Operating Lessors' Association), ERFA (European Rail Freight Association), ETF (European Transport Workers' Federation), UIP (International Union of Private Wagons), UIRR (International Union of Combined Road-Rail Transport Companies), UITP (International Association of Public Transport), UNIFE (Union of the European Railway Industries); additionally, the International Union of Railways (UIC)
- National railway authorities: National Safety Authorities, Notified Bodies and Regulatory Bodies
- Member States: responsible Ministries and members of Administrative Board of ERA
- Selection of Members of the TRAN Committee of the European Parliament
- The European Railway Agency

2. Coverage of consultation

Size

The on-line survey request was sent to a total of 119 individual institutions; 68 responses were received which represents a 57% response rate and is comparable with previous studies of this nature. In addition to this a further 10 written responses from stakeholders who preferred to respond in writing to the survey rather than complete the survey on-line were received.

Type of respondent

The largest stakeholder group was the NSAs closely followed Member State representatives and railway undertakings.

Figure V-1: Breakdown of respondents by stakeholder group

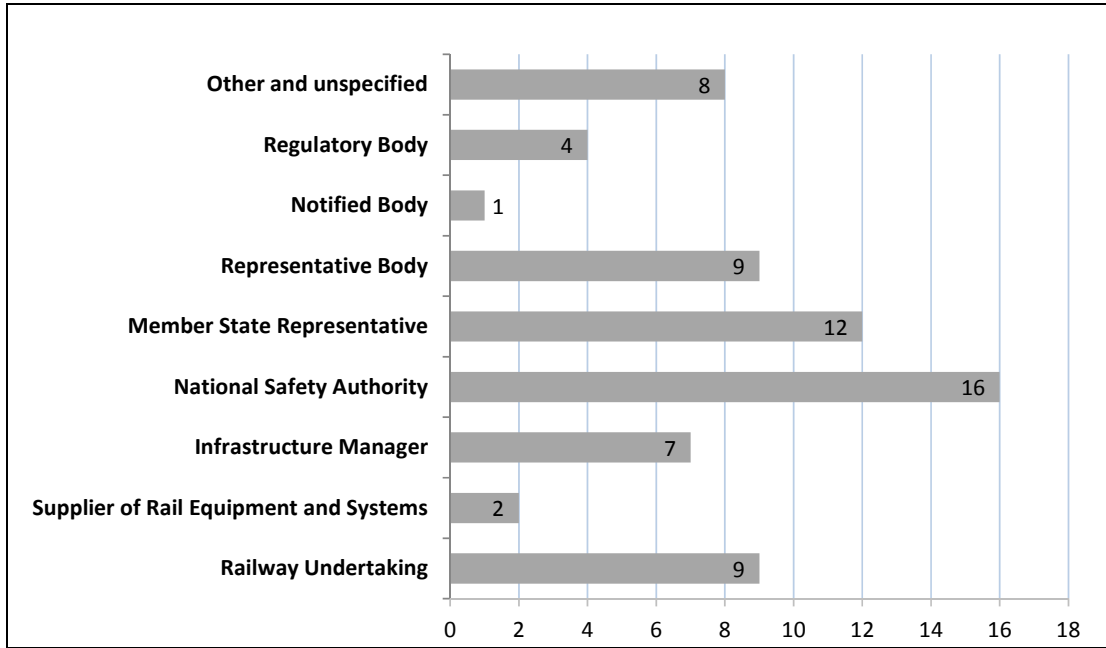
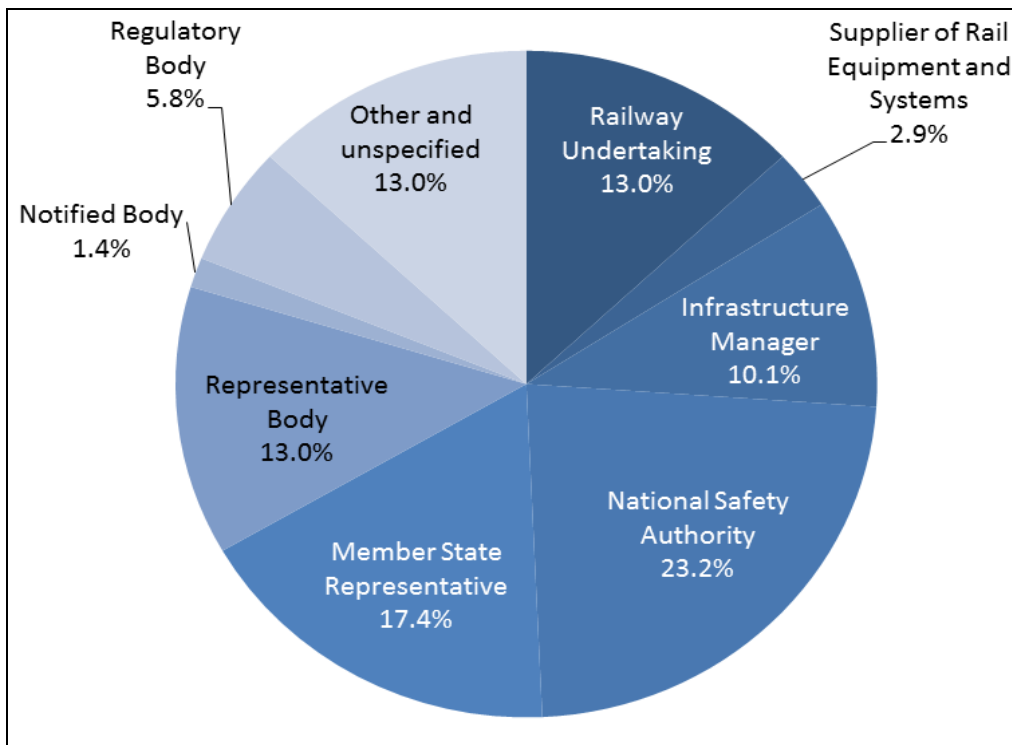


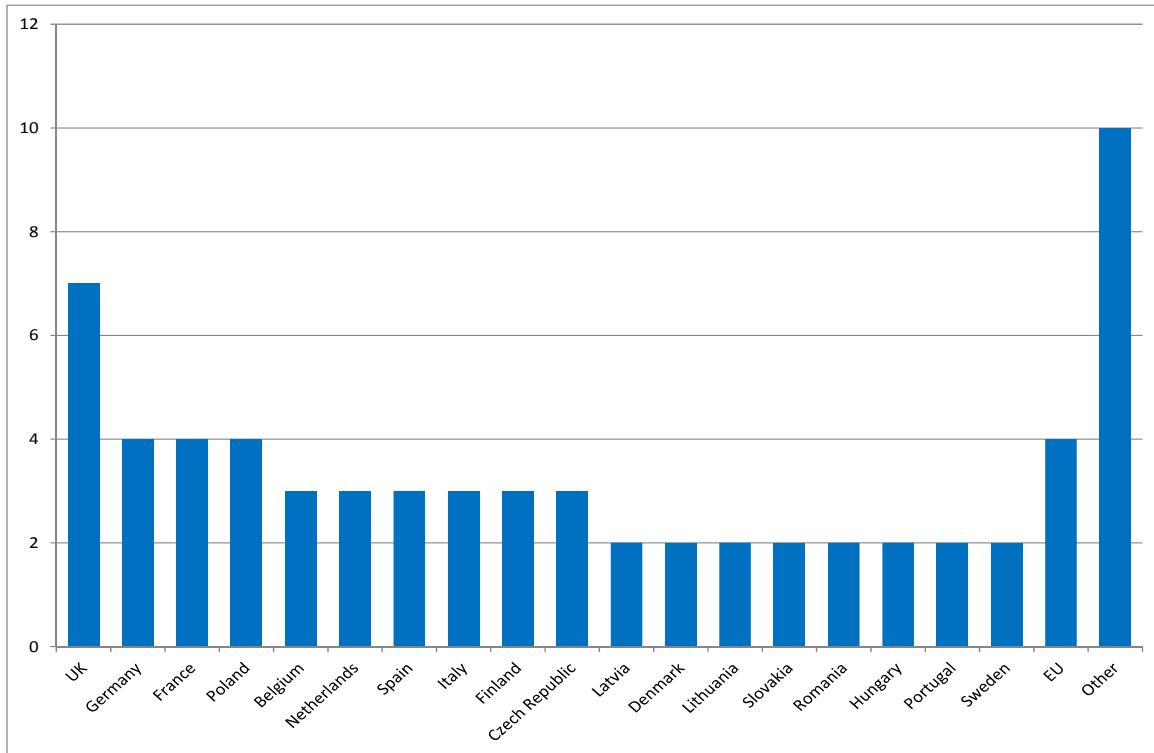
Figure V-2: Relative share of different responses



Member States covered

The following figure represents the breakdown of respondents to the survey by Member State. The UK is the MS that shows higher representation, with 7 respondents, followed by Germany, France, Poland and EU-wide organisations (4 respondents each).

Figure V-3: Breakdown of respondents by Member State



Note: The "other" category groups all MS with a single respondent, i.e. (Estonia, Greece, Luxembourg, Malta, Austria, Norway, Slovenia, Bulgaria, Cyprus)

3. Main findings from the consultation

Figure V-4: Discrimination from National Safety Authorities

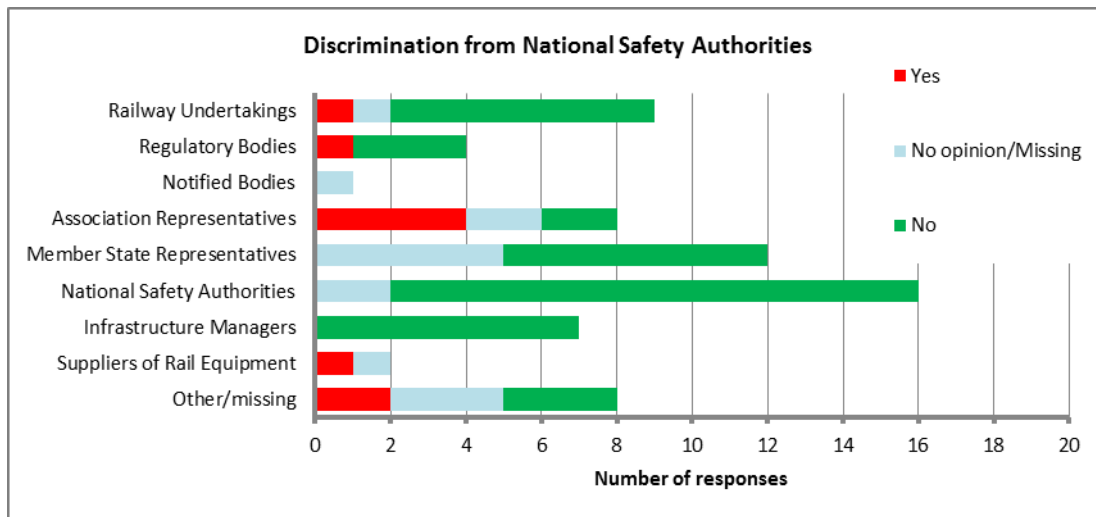


Figure V-5: Existence of divergent interpretation of EU legislation

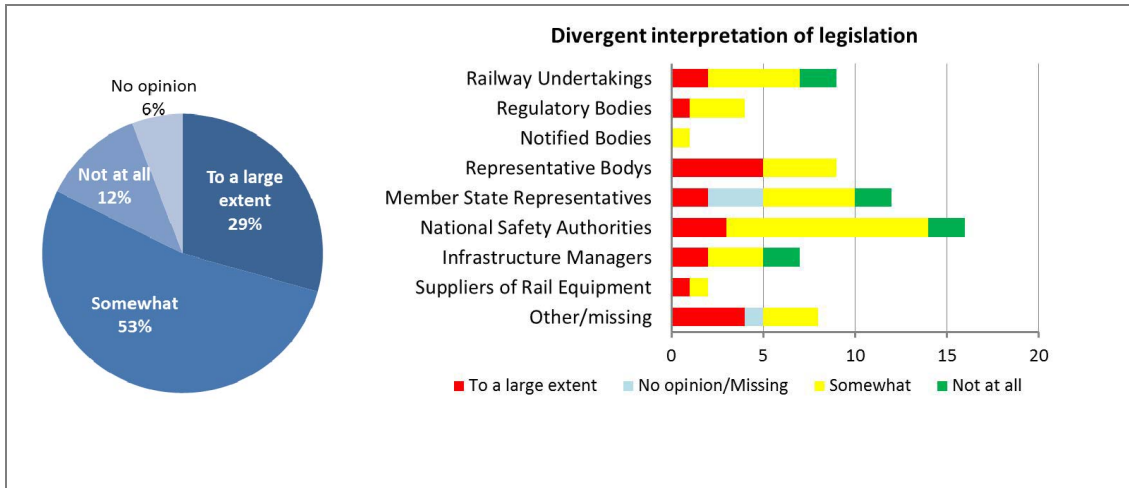


Figure V-6: Relevance of problem elements

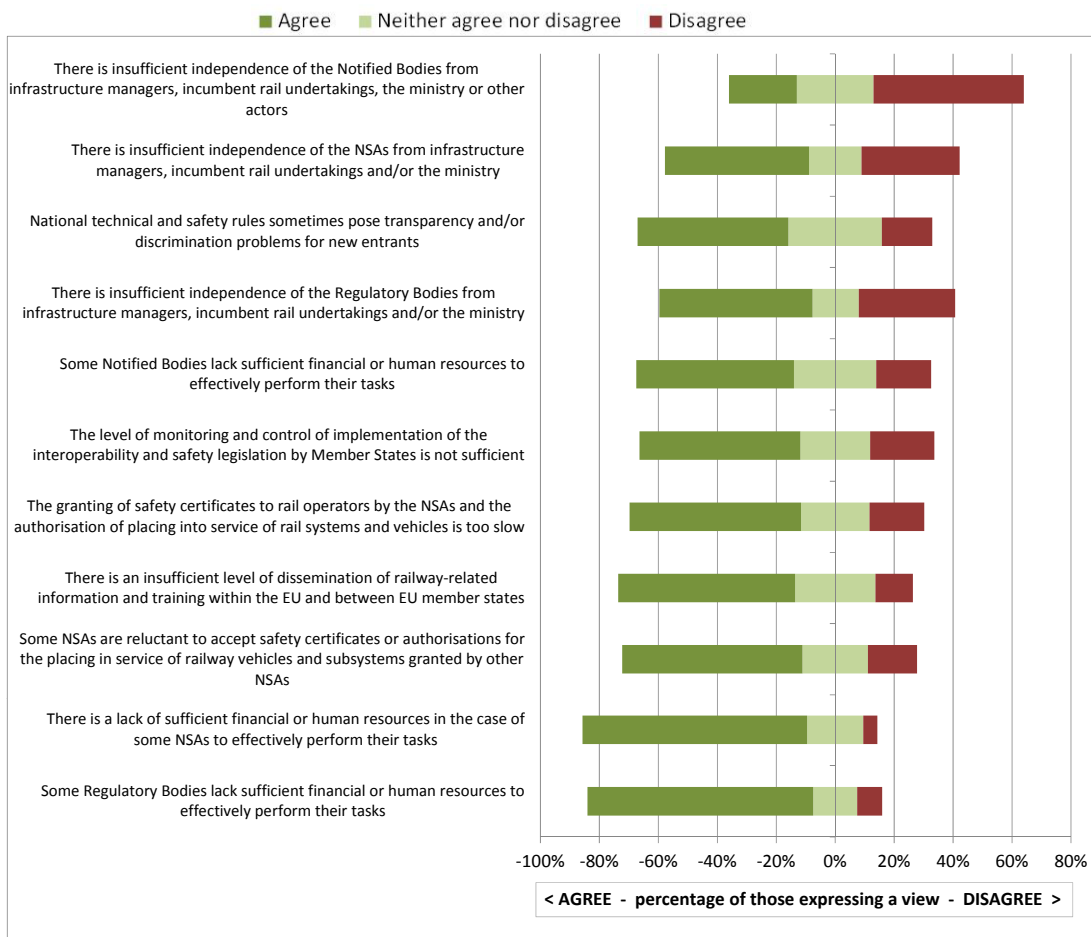


Figure V-7: Lack of financial and human resources of national bodies: overview of stakeholder responses

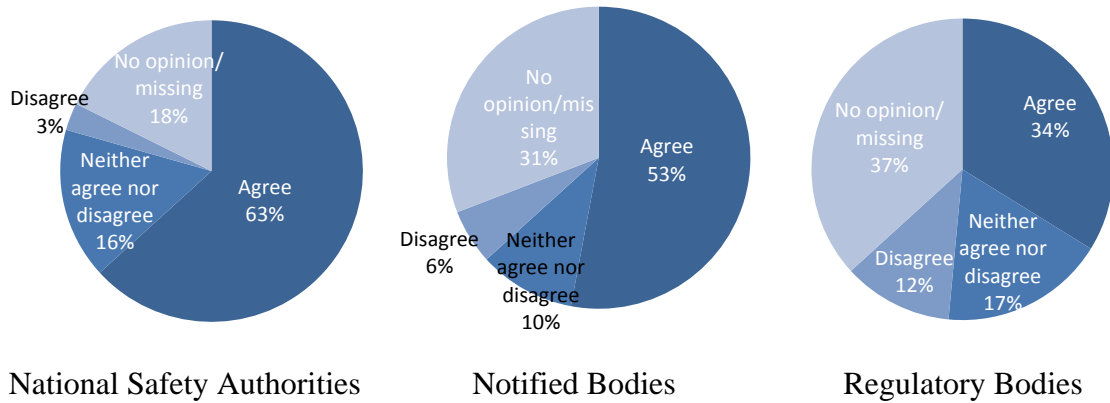


Figure V-8: Insufficient independence of national bodies: overview of stakeholder responses

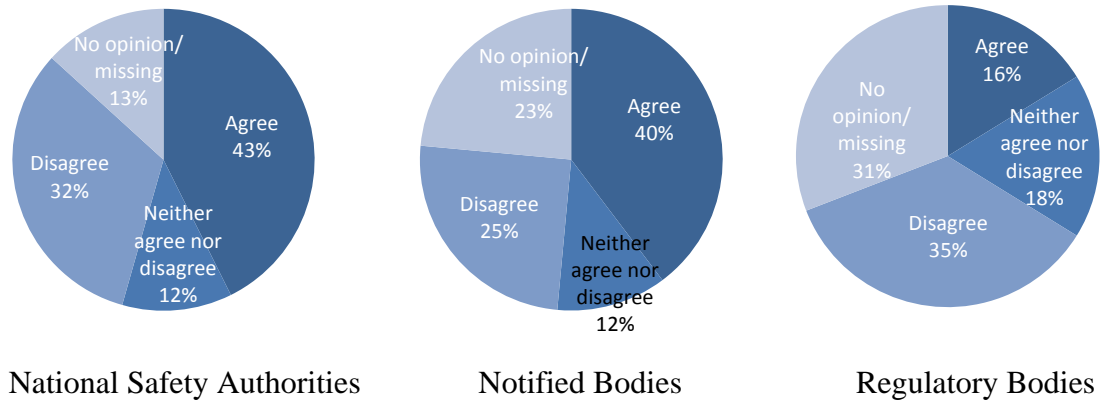
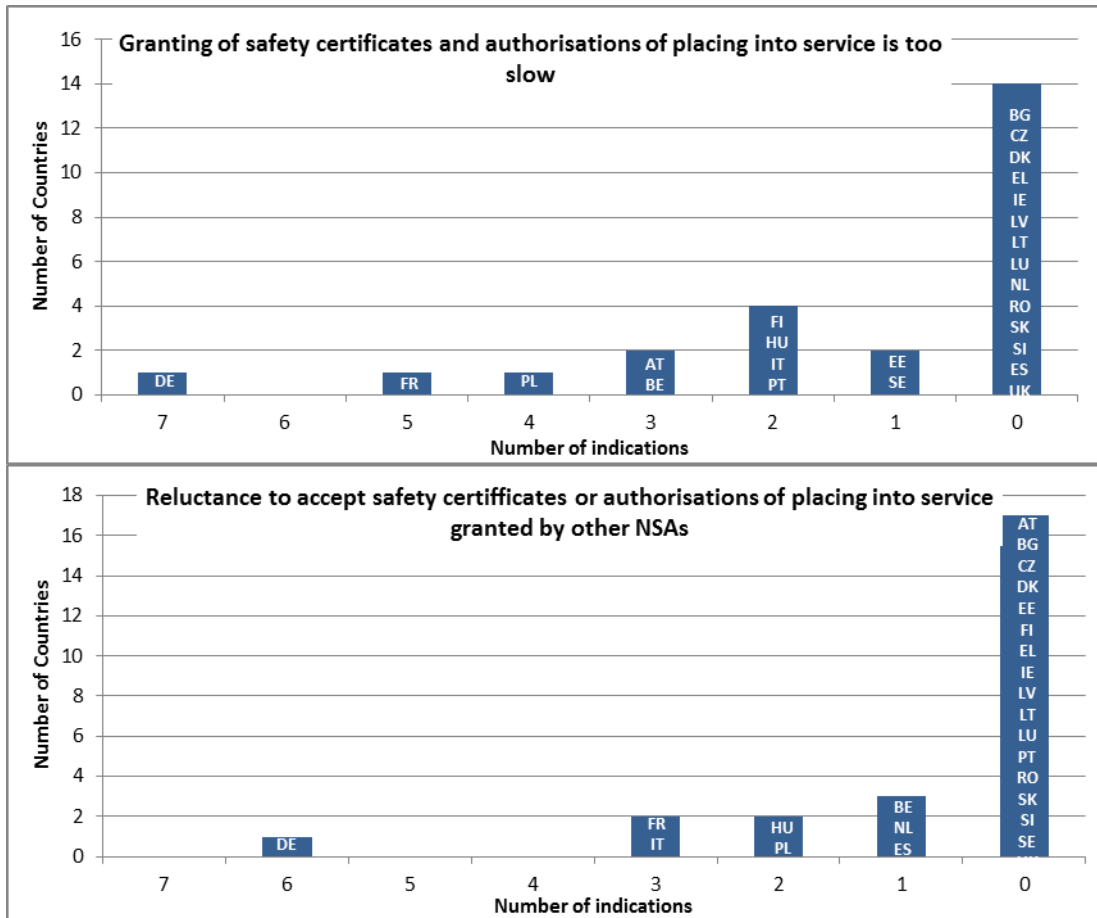
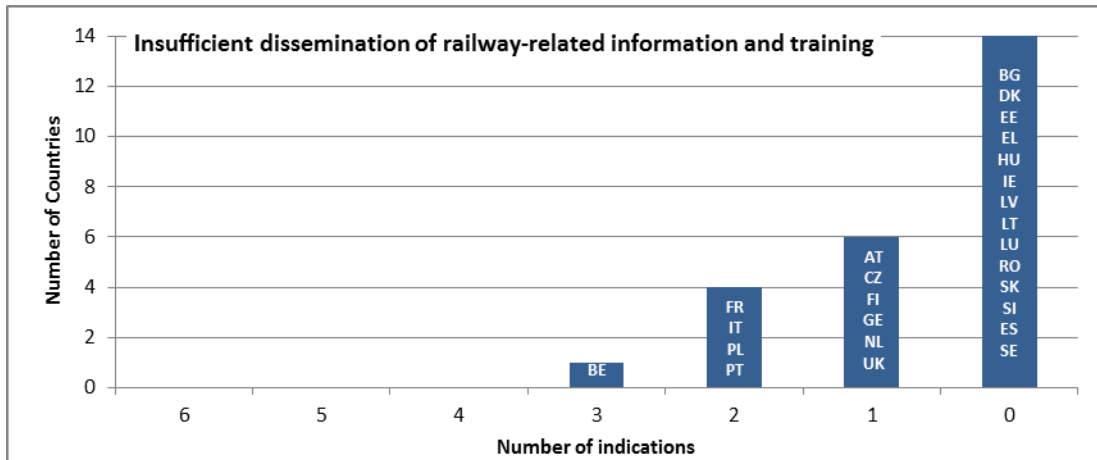
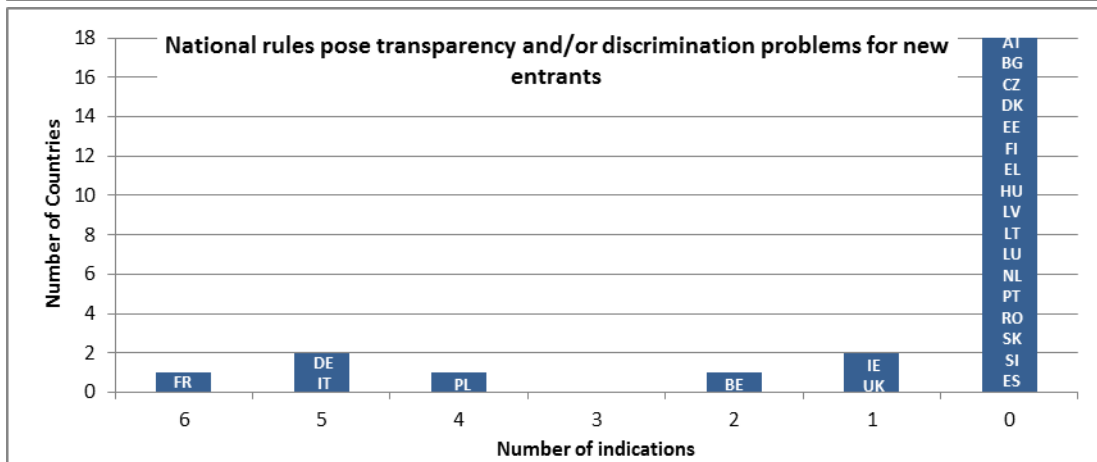
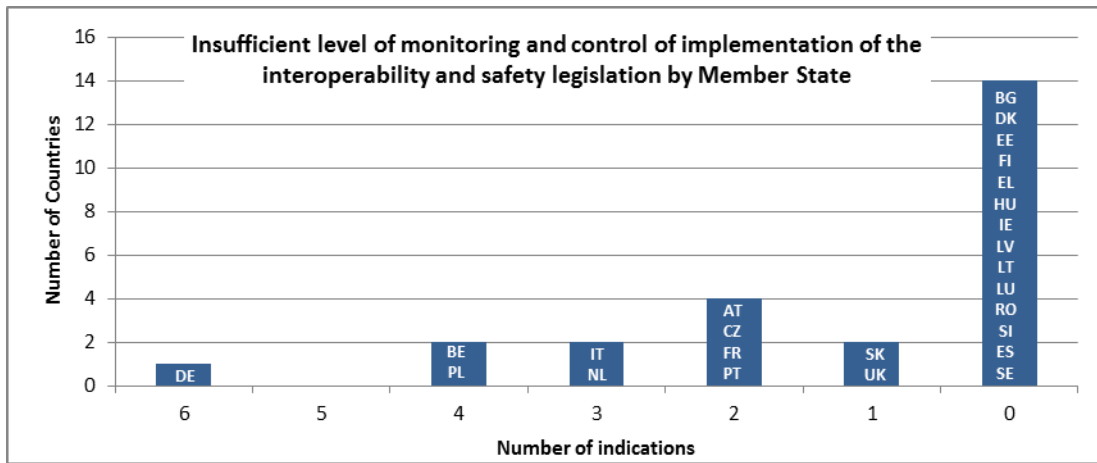


Figure V-9: Member States mentioned during the stakeholder consultation as regards existence of different problem elements





ANNEX VI SCREENING OF INDIVIDUAL MEASURES

The most appropriate measures have been chosen in the process, which involved the following steps:

- Initially exclude those measures that have received a negative response from stakeholders, that are not implementable or that can be/are being covered by other EU legislation;
- Add any additional measures that were not foreseen in the survey, but that have been identified as result of stakeholder feedback; and
- Combine any measures that would be more appropriately considered collectively.

These steps are described in more detail below.

1. Stakeholder responses for individual measures

The replies of stakeholders served as a basis for exclusion of certain measures that received a negative opinion.

Table VI-2: Stakeholder responses for individual measures

Measure	Score
Enhanced role of ERA in certification through the setting of an appropriate framework and developing the single European railway certificate.	++
Enhanced “coordination” and supervision role of ERA with respect to NSAs regarding the granting of authorisations of placing into service.	++
Enhanced “coordination” and supervision role of ERA with respect to Notified Bodies regarding type approval and rail vehicle certification.	++
Enhanced “coordination” and supervision role of ERA with respect to Notified Bodies regarding type approval and ERTMS certification.	++
Enhanced “coordination” and supervision role of ERA with respect to Regulatory Bodies (depending on developments in the rail recast).	-
Control by ERA over the functioning of NSAs (for example by developing guidelines and auditing adherence to them).	++
ERA takes over the competences of the NSAs regarding granting of certificates to the railway undertakings	-
ERA takes over the competences of the NSAs regarding granting of authorisations of placing into service of rail vehicles and other sub-systems	-
ERA takes over the competences of the Notified Bodies regarding checking the conformity with the TSIs of the rail sub-systems (including ERTMS equipment)	--
ERA takes over the competences of the Regulatory Bodies regarding supervision over infrastructure managers, in particular as far as cross-border traffic is concerned (subject to the discussion on the recast of the first railway package)	--
ERA shares the competences with the NSAs regarding granting of certificates to the railway undertakings (a "one stop shop" for safety certificates")	0

ERA shares the competences with the NSAs regarding granting of authorisations of placing into service of rail vehicles and other sub-systems (a "one stop shop" for interoperability authorisations): an application is sent to ERA, relevant NSAs are consulted, ERA takes the decision	0
ERA as an appeal body for some decisions of the NSAs relating to placing into service	+
ERA as an appeal body for some decisions of the NSAs relating to safety certification	++
ERA as an appeal body for some decisions of the Notified Bodies	+
ERA as an appeal body for some decisions of the Regulatory Bodies	-
Strengthened action by the Commission outside infringement procedures, notably on non-discrimination in the railway market	+
Change of the railway directive into regulations	+
Amendment of the railway directives to enable the adoption by the Commission of implementing measures setting out common principles and practices for the national authorities	+
Enhanced role of ERA in monitoring and control of implementation of national safety and interoperability legislation	++
Enhanced role of ERA in migration from national technical & safety rules to a system of EU rules	++
Enhanced role of ERA in dissemination of railway-related information and training	++
Enhanced role of ERA in providing advice and support for Member States and other stakeholders in implementing EU legislation on safety and interoperability	++
Enhanced role of an EU body in providing advice in building capacities in Member States to design, implement and manage relevant investment projects	0
Enhanced role of ERA in providing advice and support for Member States and other stakeholders in deploying and operating telematics applications	+
Communication from the Commission regarding guidelines on the interpretation of specific EU laws and decisions (including Technical Specifications for Interoperability)	+
Enhanced role of ERA in identifying potential spare parts to be standardised and coordination of industry activities in this area	+
Modify the directive with a view to limit/remove the possibility for MS to adopt new national rules	+
Setting up European passport for locomotives (this passport would contain a summary of the main technical parameters - it would facilitate route acceptance through comparison with the infrastructure register)	0

Note: ++ indicates more than 60% of respondents gave positive view, + indicates more than 50% gave a positive view, -- more than 60% gave a negative view, - more than 50% gave a negative view, 0 denotes where there was no outright majority. Shaded rows indicate new measures that were inserted or split into multiple questions in the survey.

2. Criteria for initial qualitative assessment

Subsequently, the measures underwent a qualitative review/assessment in the following way:

Table VI-3: Qualitative evaluation criteria

Criteria	Description
Effectiveness	What impact does each measure have on the three specific objectives?

	<ul style="list-style-type: none"> • Increase the efficiency of the safety certification, vehicle authorisation and access granting processes; • Ensure non-discrimination in the granting and recognition of safety certificates, interoperability authorisations and in the granting of access to the rail network and services across the EU; and • Increase the coherence of the national legal frameworks, notably related to the safety and interoperability aspects of the internal market for railways <p>Classified as High/Medium/Low/None. If all three objectives get “None” then that measure is excluded.</p>
Time to full effectiveness	<p>What are the timescales for the achievement of the three specific objectives set out above?</p> <p>Classified as Short/Medium/Long/Very long – the last of these leads to an automatic exclusion</p>
Impact on national institutions	<p>What is the impact on national institutions within the rail sector?</p> <p>Classified as High/Medium/Low/None</p>
Consistency with the national framework	<p>Are there significant issues of subsidiarity or proportionality?</p> <p>Classified as Yes/No – A ‘No’ answer excludes the measure</p>

The table below presents the initial qualitative evaluation of measures.

Table VI-4: Results of qualitative evaluation

Description of Option	Effectiveness			Time to full effectiveness	Effect on national institutions	Should the measure be included?
	Increase efficiency of safety certification & vehicle authorisation	Ensure non-discrimination in the granting of safety certificates & interoperability	Increase coherence of national legal framework			
Enhanced role of ERA in certification through the setting of an appropriate framework & developing the single European railway certificate.	HIGH	LOW	NONE	SHORT	LOW	YES
Enhanced "coordination" and supervision role of ERA with respect to NSAs regarding the granting of authorisations of placing into service.	LOW	LOW	LOW	SHORT	LOW	YES
Enhanced "coordination" and supervision role of ERA with respect to NoBos regarding type approval and rail vehicle certification.	LOW	LOW	LOW	MEDIUM	MEDIUM	YES
Enhanced "coordination" and supervision role of ERA with respect to Notified Bodies regarding type approval and ERTMS certification.	LOW	LOW	LOW	MEDIUM	MEDIUM	YES
Enhanced "coordination" and supervision role of ERA with respect to Regulatory Bodies (depending on developments in the rail recast).	NONE	NONE	NONE	SHORT	HIGH	NO
Control by ERA over the functioning of NSAs (for example by developing guidelines and auditing adherence to them).	LOW	LOW	LOW	SHORT	MEDIUM	YES
ERA takes over the competences of the NSAs regarding granting of certificates to the railway undertakings.	HIGH	HIGH	NONE	MEDIUM	MEDIUM	YES
ERA takes over the competences of the NSAs regarding granting of authorisations of placing into service of rail vehicles and other sub-systems.	HIGH	HIGH	NONE	LONG	HIGH	YES
ERA takes over the competences of the Notified Bodies regarding checking the conformity with the TSIs of the rail sub-systems (including ERTMS equipment).	HIGH	HIGH	NONE	LONG	HIGH	YES
ERA takes over the competences of the Regulatory Bodies regarding supervision over infrastructure managers, in particular as far as cross-border traffic is concerned (subject to the discussion on the recast of the first railway package).	NONE	NONE	NONE	LONG	HIGH	NO
ERA shares the competences with the NSAs regarding granting of certificates to the railway undertakings (a "one stop shop" for safety certificates").	MEDIUM	MEDIUM	LOW	MEDIUM	MEDIUM	YES
ERA shares the competences with the NSAs regarding granting of authorisations of placing into service of rail vehicles & other sub-systems (a "one stop shop" for interoperability authorisations): application sent to ERA, relevant NSAs are consulted, ERA takes decision.	MEDIUM	MEDIUM	LOW	MEDIUM	MEDIUM	YES
ERA as an appeal body for some decisions of the national authorities.	HIGH	HIGH	NONE	SHORT	LOW	YES
Strengthened action by the Commission in implementing the legislation.	MEDIUM	MEDIUM	LOW	SHORT	LOW	YES
Change of the railway directive into regulations.	MEDIUM	MEDIUM	HIGH	MEDIUM	HIGH	YES
Amendment of the railway directives to enable the adoption by the Commission of implementing measures setting out common principles and practices for the national authorities.	MEDIUM	MEDIUM	MEDIUM	MEDIUM	LOW	YES
Enhanced role of ERA in monitoring & control of implementation of national safety and interoperability legislation	LOW	LOW	MEDIUM	SHORT	MEDIUM	YES
Enhanced role of ERA in migrating from national technical and safety rules to a system of EU rule.	HIGH	HIGH	MEDIUM	LONG	HIGH	YES
Enhanced role of ERA in dissemination of railway-related information and training.	LOW	NONE	NONE	SHORT	LOW	YES
Enhanced role of ERA in providing advice and support for Member States and other stakeholders in implementing EU legislation on safety and interoperability.	LOW	MEDIUM	HIGH	SHORT	MEDIUM	YES
Enhanced role of an EU body in providing advice in building capacities in Member States to design, implement and manage relevant investment projects.	NONE	NONE	NONE	SHORT	LOW	NO
Enhanced role of ERA in providing advice and support for Member States and other stakeholders in deploying and operating telematic applications.	NONE	NONE	NONE	SHORT	LOW	NO
Communication from the Commission regarding guidelines on the interpretation of specific EU laws and decisions (including Technical Specifications for Interoperability).	MEDIUM	MEDIUM	MEDIUM	SHORT	MEDIUM	YES
Enhanced role of ERA in identifying potential spare parts to be standardised and coordination of industry activities in this area.	MEDIUM	MEDIUM	LOW	SHORT	LOW	YES
Modify the Directive with a view to limit/remove the possibility for MS to adopt new national rules	HIGH	HIGH	HIGH	MEDIUM	MEDIUM	YES
Setting up European passport for locomotives (this passport would contain a summary of the main technical parameters it would facilitate route acceptance through comparison with the infrastructure register)	HIGH	MEDIUM	LOW	LONG	MEDIUM	YES
Enhanced "coordination" and supervision role in the accreditation of NoBos	MEDIUM	MEDIUM	LOW	MEDIUM	LOW	YES

3. Selection of the measures

The following measures were, inter alia, dropped:

- Measures related to Regulatory Bodies: although the operation of Regulatory Bodies was confirmed as a problem by the stakeholders, the measures that related to a greater role for the Agency in the areas of capacity allocation and regulatory activities received a negative evaluation. Another reason was the approaching agreement on the Recast of the First Railway Package where the role, activities and independence of the Regulatory Bodies are being addressed, which will have a positive impact on the sector and the problems raised by stakeholders should be addressed.
- Measures related to the Agency taking over all activities of the NoBos: this received a negative evaluation by the stakeholders. In addition, it would be difficult to justify the Agency taking over all the activities of bodies which are, to a large extent, operating on a competitive market and where part of them is private. The problems identified in relation to NoBos can be addressed by greater monitoring and coordination by the Agency which is more appropriate from the proportionality perspective.
- Measure considering changing railway directives into regulations: the Commission concluded that this measure is not consistent with the principle of proportionality. While the effects of the problems with vehicle authorisation and safety certification are important, they are only a part of the overall railway legislative environment. Changing both Interoperability and Safety Directives just to address these problem areas seems excessive and may result in a substantial, one-off, administrative burden that could cancel out some of the benefits of having Regulations and therefore call into question the efficiency of the measure. Moreover, the political process of adopting them would be much longer and cumbersome, with Member States in strong opposition. Finally, it was assessed that other measures will address the problems related to vehicle authorisation and safety certification (as well as the role of national rules) in a sufficiently efficient and timely manner.

The final set of measures is provided in the main text, *Table 5-1: Summary of policy options*.

ANNEX VII
ASSESSMENT OF IMPACTS – METHODOLOGICAL ELEMENTS

1. Current costs and timescales of certification and authorisation

The assessment of impacts has allowed for considerable disaggregating of authorisation inputs to capture the wide spread of costs and timescales that arise from the authorisation of different types of vehicles in different contexts. The different authorisation categories together with the average assumed costs and timescales are set out in the table below.

Table VII-1: Authorisation categories used in the assessment

Authorisation Category	Average cost (000€)	Average timescale (months/Type)
New locomotive type authorisation (1st country)	6,000	24
New wagon type authorisation (1st country)	100	2
New Multiple Unit type authorisation (1st country)	600	24
New Coach type authorisation (1st country)	100	24
New locomotive type authorisation (additional country)	916	11
New wagon type authorisation (additional country)	0	0
New Multiple Unit type authorisation (additional country)	120	7
New Coach type authorisation (additional country)	0	0
Locomotive type re-authorisation without ERTMS (1st country)	750	12
Locomotive type re-authorisation with ERTMS (1st country)	1,500	12
Number of wagon type re-authorisations (1st country)	100	1
Multiple Unit type re-authorisation without ERTMS (1st country)	600	24
Multiple Unit type re-authorisation with ERTMS (1st country)	6,000	27
Coach type re-authorisation (1st country)	100	24
Locomotive type re-authorisation without ERTMS (additional country)	0	0
Locomotive type re-authorisation with ERTMS (additional country)	750	8
Number of wagon type re-authorisations (additional country)	0	0
Multiple Unit type re-authorisation without signalling (additional country)	0	0
Multiple Unit type re-authorisation with ERTMS (additional country)	2,000	6
Coach type re-authorisation (additional country)	0	0

Note: zero values relate to where there no reauthorisation is necessary.

A risk with the data used is the incentive for data providers to share data on their worst-case experiences whilst not providing data from authorisation examples where the process has worked

better. Therefore the available data has been used with caution and in one particular example the raw data have been adjusted to reflect the impact of exceptional circumstances unlikely to be repeated for the majority of authorisations in the relevant category. However, it is impossible to completely eliminate this possible bias and this should be borne in mind when interpreting the results.

Certification cost and timescale inputs require less disaggregating since scope for variation other than between country and passenger and freight RUs is limited (leaving aside discriminatory practices against non-incumbents). The different certification categories together with the average assumed costs and timescales are set out the table below. It should be noted that the data available for safety certification costs is very limited. Data on fees is available at a country level for some countries, but fees are excluded in this analysis since they are captured in the calculation costs of administration discussed below. Likewise, data on timescales is available but the majority of data reflects only NSA response times and does not include RU/IM preparation time. As such, the cost impacts calculated for the options primarily reflect the faster implementation of the single safety certificate reducing the costs of additional country authorisation and the reduction of costs in Germany where there is evidence of a particularly long certification process. Calculated reductions in timescales reflect improvements in NSA response times and do not capture additional time savings on RU/IM preparation times.

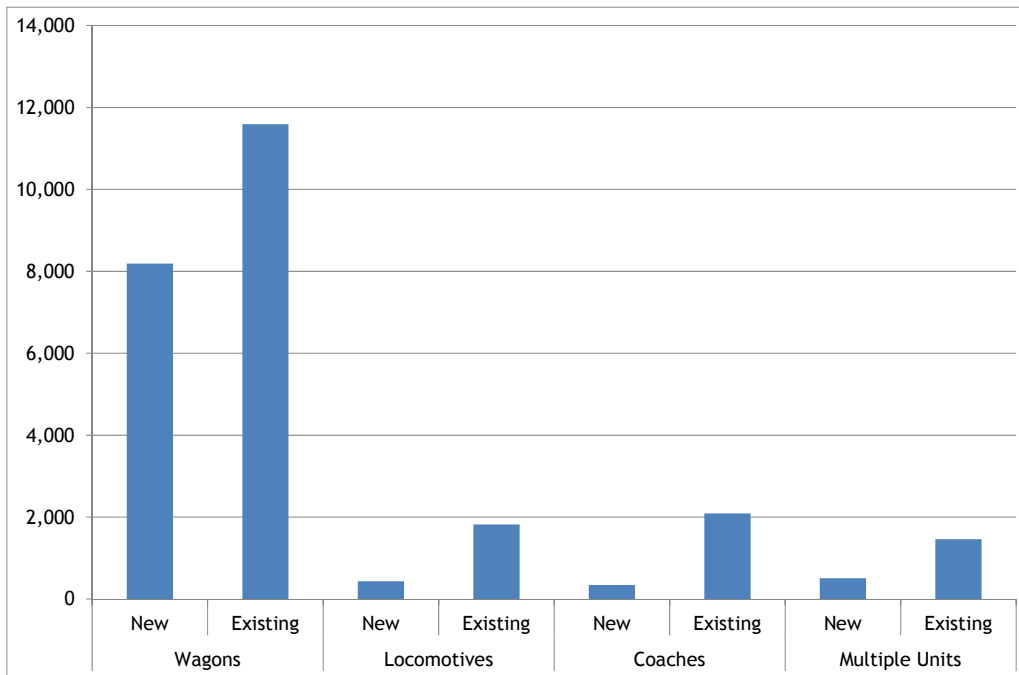
Table VII-2: Certification categories in the assessment of impacts

Certification Category	Average cost (000€)	Average timescale (months)
Safety Certification (1st Country) – Freight	21	5
Safety Certification (additional Country) – Freight	20	5
Safety Certification (1st Country) – Passenger	20	5
Safety Certification (additional Country) – Passenger	24	6

2. Future levels of authorisation and certification

The total number of vehicle authorisations for each vehicle category that has been used for the baseline position, are shown in the figure below.

Figure VII-1: Base year Authorisations (2007/2008 adjusted)



- The breakdown by authorisation category is the table below.

Table VII-3: Base Year number of authorisations used for calculations

Vehicle Category	New (1st Country)	New (additional country)	Re-authorisation (1st country)	Re-authorisation (additional country)
Wagons	8,190	0 ¹	11,600	0 ²
Locomotives	40	390	1,760	60
Coaches	340	0 ³	2,090	0 ⁴
Multiple Units	50	460	1,410	50

■ ^{1,2,3,4} Data on authorisation numbers did not distinguish between first and additional authorisations and therefore some assumptions have been made as to the proportions of each. It has been assumed that there will be zero wagon and coach additional authorisations. In practice there will be a small number but at with the data available zero was the most appropriate (and robust) assumption.

- The base year for authorisation numbers is 2008. The reasons for this are:
- The period 2009-2011 has seen very atypical patterns of authorisation due to the severe economic downturn experienced during this period. For example the Agency estimated in the Cross-Acceptance report on vehicle authorisation that the number of vehicle authorisations in 2009 dropped nearly 10% compared to 2008.
- More recent data at the disaggregated level available in the Cross-Acceptance report on vehicle authorisation is not readily available.

3. Type size reduction

A key issue for the number of type authorisations is the number of vehicles per type. It can be anticipated over time that market consolidation and market changes induced by the TSIs will

reduce the number of vehicle types on the market. This is consistent with the Agency’s analysis of the impacts of TSI scope extension.

The estimates quoted in the Cross-Acceptance report on vehicle authorisation from UNIFE have been used to derive the evolution of type size over the period 2007/2008 – 2025 for locomotives and multiple units. For wagons and coaches it has been assumed that type size for new vehicles reaches that of existing vehicles by 2015 and remains constant thereafter. The assumed type size changes are shown in the table below.

Table VII-4: Type size changes assumed in the assessment

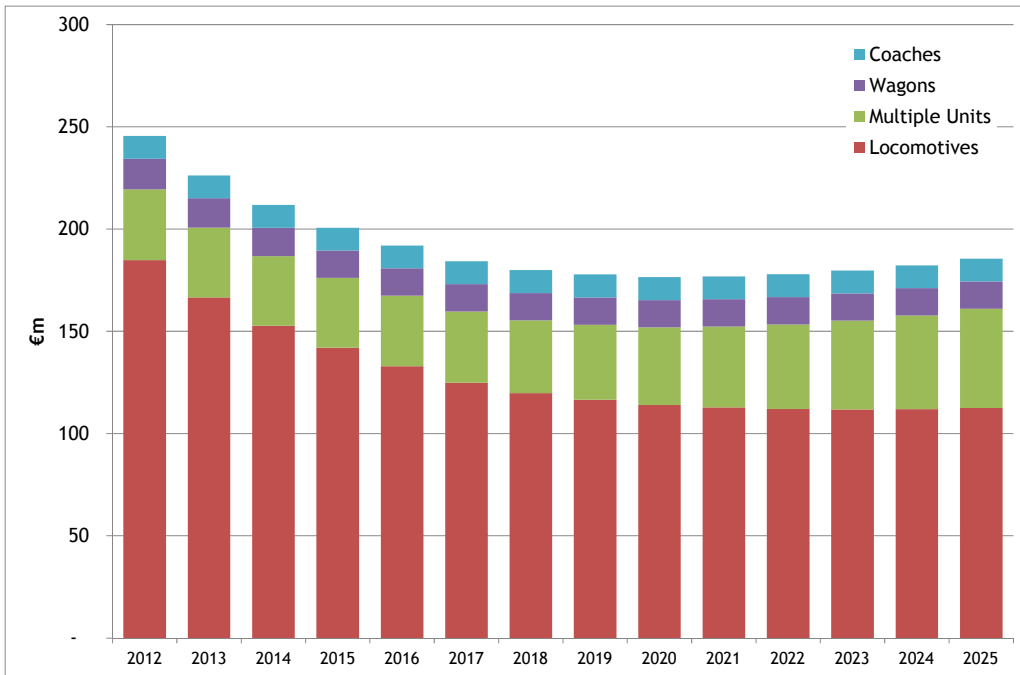
Vehicle Category	Type Size	
	2007/2008	2025
New Wagons	105	148
Existing Wagons	148	148
New Locomotives	5	32
Existing Locomotives	13	13
New Coaches	22	22
Existing Coaches	22	22
New Multiple Units	16	87
Existing Multiple Units	35	35

4 Forecast authorisation and certification costs (baseline)

The forecast evolution of total authorisation costs in the baseline scenario between 2012 and 2025 is shown in the table below. This shows that in the baseline, even without major extensions of the Agency’s role, total authorisation costs are anticipated to fall by over a third by 2020 as Cross-Acceptance, reduction of National Rules, TSI scope extension and other measures impact authorisation costs. The total level of authorisation costs does however, demonstrate the scope for cost savings with estimated total authorisation costs of over a quarter of a billion euros in 2012. The increase in authorisation costs post 2020 is caused by growth in ERTMS deployment creating a higher volume of (expensive) ERTMS related vehicle authorisations. This is an area of considerable uncertainty in the total level of authorisation costs but the impact on the incremental option benefits is small.

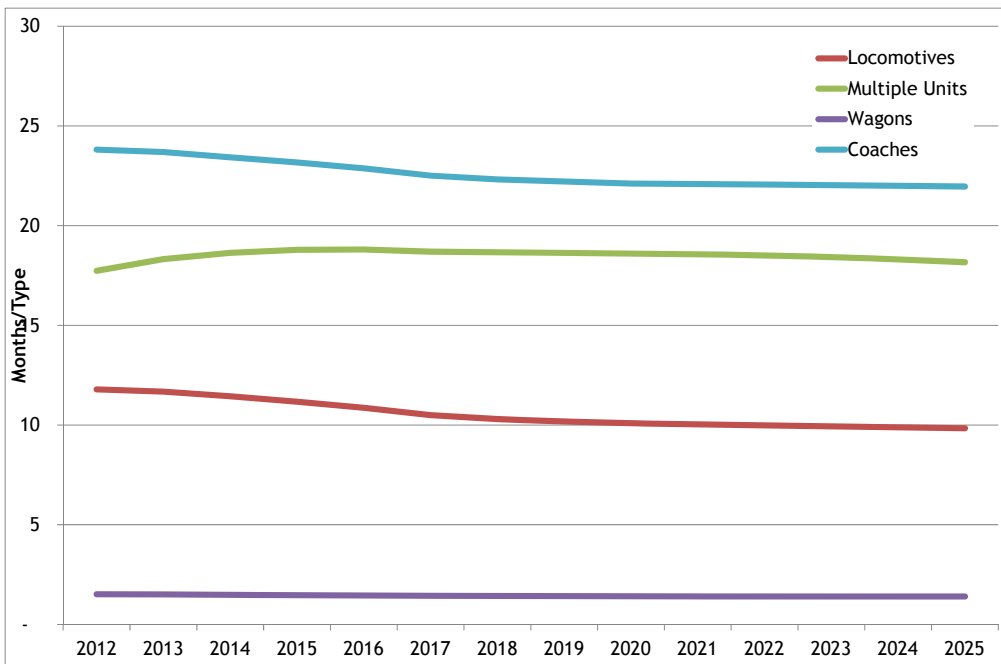
The main external reference point for the quantitative outputs in this study is the Agency’s evaluation of the benefits of TSI Scope extension. A direct comparison of absolute authorisation costs is difficult since the Agency’s analysis (which deals solely with locomotives) includes an estimate of the economic costs of locomotives stored in sidings as well as the direct costs of vehicle authorisation. However, what can be ascertained is that, whilst the Agency has estimated an approximate 50% reduction in authorisation costs (including economic costs of locomotives stored in sidings) by 2020. For the IA calculation a more cautious view was taken, estimating a reduction of around a third by 2020.

Figure VII-2: Forecast Authorisation costs all vehicle types 2012-2025 (real, undiscounted)



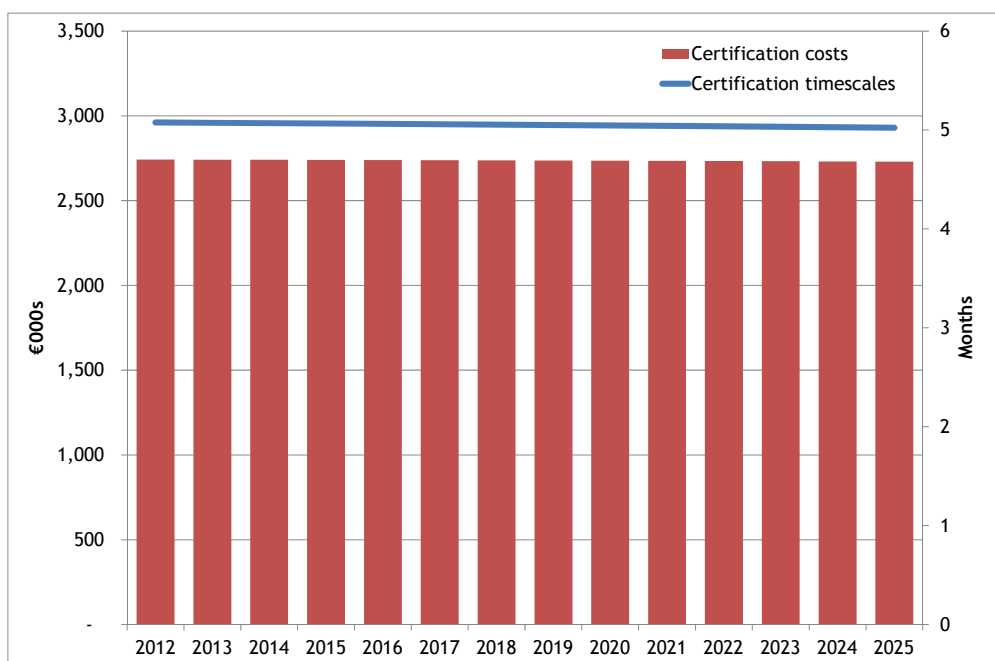
The forecast evolution of average authorisation timescales in the baseline scenario between 2012 and 2025 is shown in the figure below. Consistent with the reduction in costs a reduction in timescales is forecast although not as large as the proportional reduction in costs.

Figure VII-3: Forecast authorisation timescales 2012-2025



In the baseline certification costs and timescales are forecast to remain virtually constant with little improvement as illustrated in the figure below.

Figure VII-4: Forecast Certification costs 2012-2025 (real, undiscounted)



5. Impact on costs and timescales of authorisation and certification of the different options

Explanation on the assumptions is given in Section 6. The minimum costs and timescales used are set out in the tables below. These are based on the range of costs and timescales assessed as part of the study.

Table VII-5: Minimum possible costs of authorisation (€000)

Vehicle Category	New Country	(1st New country)	New (additional country)	Re-authorisation (1st country)	Re-authorisation (additional country)
Wagons	100		n/a ¹	100	n/a
Locomotives	5,000		500	375 (without ERTMS) 750 (with ERTMS)	n/a (without ERTMS) 500 (with ERTMS)
Coaches	100		100	100	n/a
Multiple Units	480		200	480 (without ERTMS) 4,800 (with ERTMS)	n/a (without ERTMS) 2,000 (with ERTMS)

¹ Note that where costs are 'n/a' this reflects the assumption that there are no authorisations (at least at a significant level) for this authorisation category.

Table VII-6 Minimum possible timescales of authorisation (months/type)

Vehicle Category	New (1st Country)	New (additional country)	Re-authorisation (1st country)	Re-authorisation (additional country)
Wagons	1	n/a ¹	1	n/a
Locomotives	18	6	6 (without ERTMS) 8 (with ERTMS)	n/a (without ERTMS) 8 (with ERTMS)
Coaches	18	n/a	18	n/a
Multiple Units	18	12	18 (without ERTMS) 20 (with ERTMS)	n/a (without ERTMS) 6 (with ERTMS)

¹ Note that where timescales are 'n/a' this reflects the assumption that there are no authorisations (at least at a significant level) for this authorisation category.

Table VII-7: Minimum possible costs of certification (€000)

Market	1st Country	Additional country
Passenger	18	0
Freight	18	0

Table VII-8: Minimum possible timescales of certification (months/type)

Vehicle Category	1st Country	Additional country
Wagons	3	0
Locomotives	3	0

It should be noted that a particular issue is the treatment of Germany where there currently exists a fundamental conflict between German and EU law. It has been assumed that this is cancelled out through a positive outcome (for the Commission) of the infringement proceedings currently in process and hence a portion of the benefits from reduction of authorisation costs and timescales are included in the baseline.

Calculating the impact of options on authorisation costs and timescales

Calculation of impacts of options on authorisation costs and timescales is fundamental to the impact assessment. However, whilst the consultant acquired data from a number of sources for a number of countries as to the costs and timescales of authorisation which indicates the size of the difference between efficient and non-efficient authorisation, there is no data that directly tells how far any given option will reduce the cost and timescales towards the most efficient level of authorisation.

To increase the robustness of the estimates the possible impacts of measures were assessed as systematically as possible based on the following criteria:

Authorisation

- i) Does the measure address issues specific to a particular vehicle type?

- ii) Is the measure relevant for both 1st authorisation and additional authorisation?
- iii) Which elements of the authorisation process does the measure impact?
- iv) What other measures are interrelated?
- v) What are the timescales for implementation of the measure?
- vi) What are the timescales for the impact of the measure once implemented?
- vii) Will the impact be different in different countries?

Certification

- i) Does the measure address issues specific to freight or passenger Railway Undertakings?
- ii) Is the measure relevant for both 1st certification and additional certification?
- iii) Which elements of the certification process does the measure impact?
- iv) What other measures are interrelated?
- v) What are the timescales for implementation of the measure?
- vi) What are the timescales for the impact of the measure once implemented?
- vii) Will the impact be different in different countries?

Based on these questions it has been identified what is the likely scope of impacts, which authorisation and certification categories are likely to be impacted most significantly, the timescales over which impacts will arise and whether impacts are likely to differ significantly between countries. Measures have been categorised as having a low, medium or high effect where a low effect corresponds to a reduction of the gap between current average authorisation costs and ‘perfect’ authorisation costs of between 0 and 5%, medium 5-15% and high, greater than 15%.

Once each measure was assessed an overall assessment at option level was carried out to translate reductions in costs and timescales into monetary values. This amalgamated the impacts at an option level, applying adjustments to avoid double-counting of impacts when measures were added together. Each option has been assessed as having a low, medium or high effect where low corresponds to a reduction of the gap between current average authorisation costs and ‘perfect’ authorisation costs of between 0-20%, medium with an impact of 20-50% and high with an impact of 50-100%.

It should be noted that the qualitative assessment of options 2 to 6 has been carried out on an incremental basis relative to the baseline. This means, for example, that whilst the baseline has been assessed overall as having a medium impact, option 2 has a low to medium impact. This does not mean that option 2 is worse performing than the baseline, rather that the incremental improvement in option 2 compared to the baseline is relatively small. The baseline is assessed as medium impact since it represents a substantial reduction in authorisation costs and timescales compared to the current position.

Results of assessment of each option are provided below.

Table VII-9: Impact analysis of baseline factors

Factor	Key impact characteristics (as prompted by question list)	Impact magnitude (low/medium/high)	Measure in place	Likely phasing of main impact
DV29 is commonly followed	Impacts should be felt across authorisation categories. Impact will be most significant in 'challenging' countries	Medium	2011	2011-2014
Entering into force of CR RST and LOC&PAS TSIs	The entering into force of these additional TSIs will increase the burden of applicable TSIs. In the short term this has the potential to further slow the authorisation process	Low	2011	2011-2018
Progressive elimination of open points	The elimination of open points should have a significant impact on authorisation over time but is a lengthy process	Medium	Benefits already being felt	2011-2020
Improved staffing levels at NSAs	Impacts should be felt across authorisation categories. Effects limited to countries where there is evidence of plans for improved staffing in the future (e.g. Italy and Poland)	Low (geographically limited)	2013	2013-2014
Cross-Acceptance & tidy up of national rules	This primarily benefits additional authorisation costs and is likely to be particularly significant for locomotive and multiple unit authorisations since these are the vehicle types for which the number of Cross-Acceptance agreements currently is most limited. Impacts are highly related to the number of open points. Tidy up of national rules will also impact 1st country authorisations.	High	Benefits already beginning to be felt	2011-2018
TSI scope extension	TSI scope extension will reduce the need to assess vehicles against national rules over time and also encourage migration to TSI compliant networks and vehicles	High	2014	2014-2017 main effect 2017-onwards continuing effect
Improved 'self-regulation'	Impacts likely to be patchy given dependence on self-enforcement	Low	Some measures already in place	On-going
Complete Baseline	The Baseline encompasses a wide range of impacts, a number of which (e.g. work on national rules) are likely to have a significant effect on authorisation costs and timescales. It is estimated that by 2025 the measures in place will close the gap between average authorisation costs and minimum achievable authorisation costs by over 30%. The impact on certification costs is however, much smaller with no significant initiatives to reduce certification costs.	Medium	2011	2011-2025

Table VII-10: Impact analysis of option 2 measures

Measure	Key impact characteristics (as prompted by question list)	Impact magnitude (low/ medium/high)	Measure in place	Likely phasing of main impact
Enhanced “coordination” and supervision role of ERA with respect to NSAs regarding granting vehicle of authorisations and safety certificates, including ensuring their mutual recognition by national authorities.	This is a general measure affecting all authorisations and certifications. Ensuring mutual recognition of safety certificates should have a high impact. Significant benefits from mutual recognition of vehicle authorisation not likely to be realised without implementation of other measures.	Low (authorisations and 1 st country certification) High (additional country certification)	2017	2017-2025 2020-2025 (mutual recognition of authorisations)
Enhanced “coordination” and supervision role of ERA with respect to Notified Bodies regarding: type approval; rail vehicles certification; ERTMS certification and accreditation of NoBos.	This is likely to particularly impact additional authorisations by giving additional countries confidence in NoBo outputs. Will also particularly impact vehicle authorisations involving ERTMS sub-systems	Medium	2017	2017-2020
Control by ERA over the functioning of NSAs (for example by developing guidelines and auditing adherence to them).	This is a general measure affecting all authorisations and certifications	Low	2017	2017-2022
Complete Option	The impact of this option is relatively low with additional powers of the Agency limited. Main impact is on additional authorisations.	Low	2017	2017-2022

Table VII-11: Impact Analysis of option 3 measures

Measure	Key impact characteristics (as prompted by question list)	Impact magnitude (low/medium/high)	Measure in place	Likely phasing of main impact
Migration to a single (common) safety certificate: national authorities issue single safety certificates (mutually recognised by definition)	The key impact of the single safety certificate is the eventual removal of the need for additional Part B authorisations.	High	2017	2017-2021
ERA shares the competences with the NSAs regarding granting of safety certificates to the railway undertakings and vehicle authorisations placing into service (a "one stop shop" for safety certificates and vehicle authorisation concept): the decision is taken by the NSA, ERA performs "entry and exit" checks of the application and of the decision.	This is a general measure affecting all authorisations and certifications	Medium	2017	2017-2021
ERA as an appeal body for some decisions of NSAs	Likely to impact all authorisations & certifications. Assume that prospect of appeal has immediate effect on NSA behaviour. However, impact is likely to decrease with reduction in open points and national rules.	Medium	2017	2017-2019
Enhanced "coordination" and supervision role of ERA with respect to NoBos regarding: type approval; rail vehicles certification; ERTMS certification & accreditation of NoBos.	This is likely to particularly impact additional authorisations by giving additional countries confidence in NoBo outputs. Will also particularly impact vehicle authorisations involving ERTMS sub-systems	Medium	2017	2017-2020
Control by ERA over the functioning of NSAs (e.g. by developing guidelines & auditing adherence to them).	This is a general measure affecting all authorisations and certifications	Low	2017	2017-2022
Migration to a single vehicle authorisation (setting up European "passport" for vehicles): national authorities issue single vehicle authorisations (mutually recognised by definition)	Impacts should be felt across all authorisation categories but mainly additional authorisations. Full benefits not likely to be realised without implementation of other measures e.g. improved infrastructure registers.	Low	2020	2020-2025
Complete Option	Whilst ERA has more powers in this option primarily through measure on safety certificate it is likely that additional benefits over option 2 will be limited with division of labour between NSAs and the Agency being an issue.	Low/Medium	2017	2017-2022

Table VII-12: Impact analysis of option 4 measures

Measure	Key impact characteristics (as prompted by question list)	Impact magnitude (low/medium/high)	Measure in place	Likely phasing of main impact
ERA shares the competences with the NSAs regarding granting of safety certificates to RUs & vehicle authorisations to applicants: a "one stop shop" concept with the NSAs (acting as regional offices of ERA) contributing in the process but the final decision rests with ERA.	This is a general measure affecting all authorisations and certifications.	High	2017	2017-2022
Migration to a single (common) safety certificate: ERA issues single safety certificates	The key impact of the single safety certificate is the eventual removal of the need for additional Part B authorisations.	High	2018	2018-2023
Enhanced "coordination" and supervision role of ERA with respect to NoBos regarding: type approval; rail vehicles certification; ERTMS certification and accreditation of NoBos.	This is likely to particularly impact additional authorisations by giving additional countries confidence in NoBo outputs. Will also particularly impact vehicle authorisations involving ERTMS sub-systems	Medium	2017	2017-2020
Migration to a single vehicle authorisation (setting up European "passport" for vehicles): ERA issues single vehicle authorisations	Impacts should be felt across all authorisation categories but mainly additional authorisations. Full benefits not likely to be realised without implementation of other measures e.g. improved infrastructure registers.	Medium	2020	2020-2025
Complete Option	Provided ERA has sufficient powers to act as a strong central office this option is likely to have a significant impact on authorisation and certification costs and timescales.	Medium/High	2017	2017-2023

Table VII-13: Impact analysis of option 5 measures

Measure	Key impact characteristics (as prompted by question list)	Impact magnitude (low/medium/high)	Measure in place	Likely phasing of main impact
ERA takes over the competences of the NSAs regarding granting of certificates to RUs & vehicle authorisations	This is a general measure affecting all authorisations and certifications.	High	2017	2017-2023 Measure will take some time to bed in
Migration to a single (common) safety certificate: ERA issues single safety certificates	The key impact of the single safety certificate is the eventual removal of the need for additional Part B authorisations.	High	2017	2017-2022
Enhanced “coordination” and supervision role of ERA with respect to Notified Bodies regarding: type approval; rail vehicles certification; ERTMS certification and accreditation of NoBos.	This is likely to particularly impact additional authorisations by giving additional countries confidence in NoBo outputs. Will also particularly impact vehicle authorisations involving ERTMS sub-systems	Medium	2017	2017-2020
Migration to a single vehicle authorisation (setting up European "passport" for vehicles): ERA issues single vehicle authorisations	Impacts should be felt across all authorisation categories but mainly additional authorisations. Full benefits not likely to be realised without implementation of other measures e.g. improved infrastructure registers.	Medium	2020	2020-2025
Complete Option	This option would have a high impact on authorisation costs and timescales and would also enable additional efficiencies over the current arrangements through economies of scale.	High	2017	2017-2023

Table VII-14: Impact analysis of option 6 measures

Measure	Key impact characteristics (as prompted by question list)	Impact magnitude (low/medium/high)	Measure in place	Likely phasing of main impact
3.1: Strengthened action by the Commission in implementing the legislation	This will impact all authorisations and certifications. Impact will be greatest in 'challenging' countries.	Medium	2015	2015-2018
Amendment of the railway directives to enable the adoption by the Commission of implementing measures setting out common principles & practices for the national authorities	Impacts should be felt across all authorisation and certification categories. Impact will be most significant in 'challenging' countries	Medium	2017	2017-2022
Enhanced role of ERA in monitoring & control of implementation of national safety & interoperability legislation	Impacts should be felt across all authorisation and certification categories. Impact will be most significant in 'challenging' countries.	Low	2016	2016-2018
Migrating from national technical & safety rules to EU rules through clear indication of what national rules need to be removed by national authorities with the national authorities tasked with the role of removing them. Also modify the directive with a view to limit/remove the possibility for MS to adopt new national rules	Impacts should be felt across all authorisation categories although particularly for additional authorisations. It has been assumed that this measure does have an impact on the number of national rules in existence at the end of the evaluation period, not just a speeding up of the process of removal.	Medium	2015	2015-2020
Enhanced role of ERA in dissemination of railway-related information and training.	Impacts should be felt across all authorisation and certification categories.	Low	2015	2015-2017
Enhanced role of ERA in providing advice and support for Member States and other stakeholders in implementing EU legislation on safety & interoperability	Impacts should be felt across all authorisation and certification categories.	Medium	2015	2015-2018
Communication from the Commission regarding guidelines on the interpretation of specific EU laws & decisions (including TSIs)	Impacts should be felt across all authorisation and certification categories. Impact will be most significant in 'challenging' countries.	Medium	2015	2016-2018
Enhanced role of ERA in identifying potential spare parts to be standardised and coordination of industry activities in this area	Impact of spare parts component evaluated qualitatively – see Maintenance costs indicator.	Low	2016	2016-2025
Complete Option	This option contains some measures that can be implemented relatively quickly and as such has an earlier benefit than any other option. However, most of the measures have a medium or low impact and therefore the overall impact is similar to options 2 and 3.	Medium	2015	2015-2025

6. Horizontal measures impacts matrix

Individual measures included in option 6, when combined with options 2-5, will have different effect. The matrix shows the extent of differentiation of horizontal measures' impact on options 2 to 5. Where the impact is the same for the combined option as for the stand-alone horizontal option, this is denoted by '100%'. Where it is less, a correspondingly smaller percentage is included. The key feature is that a number of horizontal measures have a smaller impact in options 4 and 5 since the core measures for these options negate the need for some of the horizontal measures. Option level adjustments have also been included to keep the combined effects to a feasible level (i.e. reduction of gap between average and 'perfect' authorisation/certification cannot be more than 100%).

Table VII-15: Horizontal measures impacts matrix

Option	Horizontal option measure							
	A	B	C	D	E	F	G	H
Option 2	100%	100%	100%	100%	100%	100%	100%	100%
Option 3	100%	100% 50% (additional country certification)	75%	100%	100%	100%	75%	100%
Option 4	25%	50%	50%	100%	100%	75%	50%	100%
Option 5	0%	0%	25%	100%	75%	50%	25%	100%

- A. Strengthened action by the Commission in implementing the legislation;
- B. Amendment of the railway directives to enable the adoption by the Commission of implementing measures setting out common principles and practices for the national authorities;
- C. Enhanced role of ERA in monitoring & control of implementation of national safety and interoperability legislation;
- D. Enhanced role of ERA in migrating from national technical and safety rules to a system of EU rules;
- E. Enhanced role of ERA in dissemination of railway-related information and training;
- F. Enhanced role of ERA in providing advice and support for Member States and other stakeholders in implementing EU legislation on safety and interoperability;
- G. Communication from the Commission regarding guidelines on the interpretation of specific EU laws and decisions (including Technical Specifications for Interoperability);
- H. Enhanced role of ERA in identifying potential spare parts to be standardised and coordination of industry activities in this area.

Note: percentages reflect the relative impact of measures when combined with options 2-5 compared to impact in option 6. I.e. if impact of measure in option 6 is 10% and percentage in table is 50% this implies a 5% impact.

7. Standardisation of fees

Within the analysis of the cost of administration it was investigated how potential revenues could vary for the institutions involved in the different options and to what extent the extra calls to EU budget could be covered. The input data for this analysis has been the total number of safety certificates issued and vehicle authorisations granted in recent years, the average fees for these two activities and how the fee revenues would be shared between the Agency and NSAs.

To facilitate this analysis a standardisation of the fees was assumed in different Member States for all the cumulative options (2 to 5) above the baseline, which has been set equal to €10k per safety certificate and €17k per vehicle authorisation. This implies a reduction in the fees per *safety certificate* collected by EU15 NSAs (from an average of €20k to €10k) and an increase in those raised by EU12 NSAs (from an average of €3k to €10k). It also implies a reduction in the fees per

vehicle *authorisation* collected by EU15 NSAs (from an average of €28k to €17k) and an increase in those raised by EU12 NSAs (from an average of €11k to €17k). The variation in fee revenues for NSAs and the Agency in options 2 to 5 is set out in the table below.

Table VII-16: Impacts of options on NSAs and agency revenues (€ m)

Option	Revenue sharing criteria	NSAs Revenue Increase (Decrease) – NPV across the EU (2015-2025)	Agency Revenue Increase (Decrease) – NPV (2015-2025)	Net change in revenues (NSAs + ERA) - NPV
Option 2: Further ERA “Coordination”	100% NSAs	(29.42)	-	(29.42)
Option 3: ERA as One-Stop-Shop	100% NSAs	(29.42)	-	(29.42)
Option 4: ERA & NSAs share competencies	a. 25% NSAs 75% ERA	(85.84)	56.43	(29.42)
	b. 50% NSAs 50% ERA	(67.04)	37.62	(29.42)
	c. 75% NSAs 25% ERA	(48.23)	18.81	(29.42)
Option 5: ERA takes over activities of NSAs regarding authorisation & certification	100% ERA	(104.65)	75.23	(29.42)

In case of option 4 the total amount of potential revenues was distributed between NSAs and ERA with the criteria (percentages) of different revenue sharing scenarios.

8. Opportunity cost savings from reduced authorisation timescales

There will be a number of savings arising directly from shorter rolling stock authorisation timescales. These include:

- reduction in operating costs accrued as a result of needing to cover delayed stock with alternative stock;
- reduction in loss of revenue where the introduction of new services is delayed/existing services are cut back where rolling stock is not available to cover for delayed stock;
- reduced storage costs.

Whilst the impacts are significant, quantification is challenging. For example, the balance of cost savings versus reductions in lost revenue is highly dependent on the precise nature of services involved. Further, the magnitude of cost savings and reductions in revenue loss will also be dependent on a number of other factors. For example, an incumbent might be able to cover affected services with existing rolling stock and therefore only incur storage costs, but a new entrant might forgo significant revenue if it is unable to obtain covering rolling stock.

Therefore three scenarios were developed to construct an assessment of the possible range of opportunity cost savings. The scenarios are:

- i) All affected services are covered by alternative rolling stock (lower bound)
- ii) Half of affected freight services and half of affected passenger services are not able to run with resultant revenue loss (central case)
- iii) None of the affected services are able to run (upper bound).

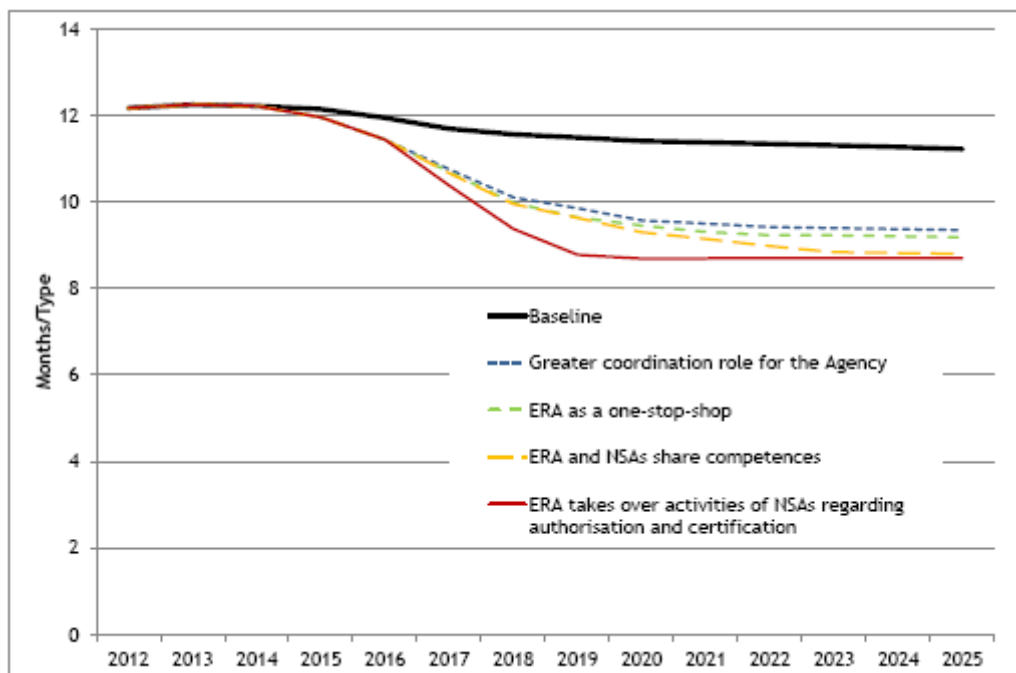
The key parameters for assumptions were:

- Cost of alternative rolling stock is assumed to be cost of leasing additional rolling stock. For locomotives a value of approx. €30k per month has been used and for multiple unit vehicles, €15k. Both these values are approximately 1% of typical average new vehicle values.
- Using UIC data, average revenue per loco and passenger vehicle have been calculated as a percentage of new vehicle value. For locomotives this is 3.8% on a monthly basis and for passenger vehicles 1.9% on a monthly basis.

Using these parameters together with the current value of delayed rolling stock in sidings derived from data collected by the Agency it has been possible to construct estimates of the savings arising from reduced authorisation timescales. It has been assumed that reductions in authorisation timescales are reflected one for one in reductions in average delays. Reductions in certification timescales have not been included in the delay reduction since evidence suggests it is vehicle authorisation that is the primary binding constraint.

Average reductions in authorisation timescales by option are shown in Figure VII-5.

Figure VII-5: Average reduction in authorisation timescales by combined options



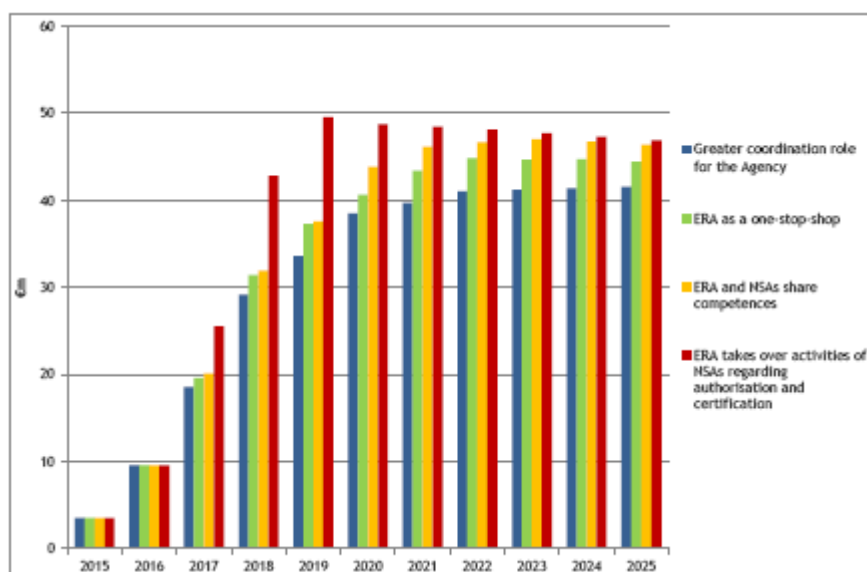
The analysis only covers locomotives and multiple units since the Agency has stated that its studies show that coaches and wagons usually achieve their due dates and they only have data for locomotives and multiple units. In addition, costs of storage are not incorporated since available data suggests that these costs are relatively small compared to the costs of leasing stock or forgone revenue.

Table VII-17 shows the discounted opportunity cost savings that could be achieved over the period 2015 – 2025. The inclusion of the three different scenarios illustrates the large degree of uncertainty but suggests that savings could be at least €100m for option 5. Figure VII-6 illustrating savings by year for the central case further shows that savings per option are between €30 and €40m per year by the end of the evaluation period.

Table VII-17: discounted opportunity cost savings 2015-2025 (€ m)

Option	Central Case	Lower bound	Upper bound
Option 2: Further ERA “Coordination”	237	71	402
Option 3: ERA as One-Stop-Shop	255	77	433
Option 4: ERA and NSAs share competences	265	81	450
Option 5: ERA takes over activities of NSAs regarding authorisation and certification	295	90	499

Figure VII-6: Total opportunity cost savings 2015-2025 with horizontal measures ((€ m, central case, real, undiscounted)



9. Calculations of the impacts on the cost of administration for the ERA and national authorities

Introduction

The policy options considered have a significant impact on the cost of administration of EU and national institutions and, as such, need to be investigated in detail. This analysis has been carried out on the basis that some of proposed measures entail a variation in the staff needed by ERA to perform additional tasks, and, in some cases, possible reductions of staff at NSAs due to competences transferred at central level.

The aim of this analysis is to assess the difference in the cost of administration determined by the implementation of the selected policy options against a baseline scenario in which none of the

measures are adopted. Although it is acknowledged that in the actual baseline scenario there could be administrative cost variations over time (e.g. due by NSAs or ERA staff growth for better implementation of current rules), in this analysis the aim was to point out the difference in costs between adopting the policy options or doing nothing. The only assumption regarding the baseline scenario which differs from the present situation is the fact that the different fees currently applied by the NSAs for the release of the safety certificate, were assumed to converge toward a single fee whose value is fixed across the EU.

For each Policy Option, impacts were disaggregated in order to identify variations in costs on each specific stakeholder groupings, i.e.:

- the Agency (and the Commission particularly in relation to the Horizontal Measures); and
- national institutions (in particular NSAs).

For the purpose of this analysis, all costs are indexed to a base year of 2012 and are computed in real terms over the period 2012-2025 using as indicator the Net Present Value at 4% discount rate, which is consistent with the assumption made for the IA model presented above.

For the different options the net administrative cost has been estimated by computing:

- the variation in gross administrative costs at Community level (namely variation in ERA costs, in the "separate appeal body" to be created in Options 4 and 5 and in the Commission staff), at national level (variation in NSAs costs) and at the EU level (sum of variation in ERA and NSAs costs); and
- the variation of potential revenues collected by levying charges for the activities carried out by the NSAs and ERA in relation to the release of safety certificates.

Assumptions

The following inputs have been used for the estimation of the cost of administration:

Agency costs:

- Variation of number of staff in the different options: estimated on the basis of the assessment of the individual measures included in each option; see Table VII-18 below. In addition, the estimated total variation in staff members was distributed across years to take into account the fact that the recruitment process needs a number of years to be finalised (it was assumed that by 2020 all staff member variation have occurred).
- Gross cost of Agency staff members: estimated on the basis of the average staff cost indicated by the Agency, i.e. €100k. This value was converted into a range of costs varying with staff number increase in line with expected lower average cost of staff where larger numbers of staff are required (as more junior staff will be required when numbers increase).
- Overhead costs: computed at 25% of staff costs.
- Other costs: values estimated on a case by case basis looking at individual measures. These costs include, for example, travelling costs to attend conferences, outsourcing costs for evaluation studies/technical support.

The work already undertaken to date by the Agency in relation to its future role has informed this assessment but the approach used to these calculations differs from those used by the Agency as the synergies have been identified through the implementation of different measures within a single "option" package.

Table VII-18: Summary of policy options with relevant number of staff attributed to each measure

Option 1	Option 2: Further ERA “Coordination” over NSAs	Option 3: ERA as One-Stop-Shop	Option 4: ERA & NSAs share competencies	Option 5: ERA takes over activities of NSAs
Baseline	Enhanced “coordination” and supervision role of ERA with respect to NSAs regarding granting of vehicle authorisations & safety certificates including ensuring their mutual recognition by national authorities. (13)	ERA shares the competences with the NSAs regarding granting of safety certificates to the railway undertakings and vehicle authorisations (“one stop shop” concept): the decision is taken by NSA, ERA performs “entry and exit” checks of the application. (15)	ERA shares the competences with the NSAs regarding granting of safety certificates & vehicle authorisations: a “one stop shop” concept with the NSAs (acting as regional offices of ERA) contributing but the final decision rests with ERA. (30)	ERA takes over the competences of the NSAs regarding granting of certificates to the railway undertakings and vehicle authorisations. (275)
		ERA as an appeal body for some decisions of NSAs (3)		
		Migration to a single (common) safety certificate and single vehicle authorisation (setting up European “passport” for vehicles): <u>national authorities issue</u> single safety certificates & single vehicle authorisations (mutually recognised by definition)	Migration to a single (common) safety certificate and single vehicle authorisation (setting up European “passport” for vehicles): <u>ERA issues</u> single safety certificates and single vehicle authorisations (Appeals to ERA decisions are sent to a separate appeal body)	
		Control by ERA over the functioning of NSAs (e.g. developing guidelines & auditing adherence to them). (4)		
Enhanced “coordination” and supervision role of ERA with respect to NoBos regarding: type approval; rail vehicles certification; ERTMS certification and accreditation of NoBos. (3)				
Option 6: horizontal measures (independent of the level of interaction ERA/national authorities)	Strengthened action by the Commission outside infringement procedure, notably on non-discrimination in the railway market (1 EC)			
	Amendment of the interoperability and safety directives to enable the adoption of implementing acts setting out common principles & practices for national authorities (1 EC)			
	Enhanced role of ERA in monitoring and control of implementation of national safety and interoperability legislation (6)			
	Migrating from national technical & safety rules to a system of EU rules (requirement for national authorities to remove unnecessary rules and limiting their possibility of adopting new rules). (9)			
	Enhanced role of ERA in dissemination of railway-related information and training. (5)			
	Enhanced role of ERA in providing advice & support for Member States & other stakeholders in implementing legislation on safety & interoperability (3)			
	Communication from the Commission regarding guidelines on the interpretation of specific EU laws & decisions (including TSIs)			
	Enhanced role of ERA in identifying potential spare parts to be standardised and coordination of industry activities in this area (2)			

NSAs costs:

- Variation of number of staff in the different options: for each option at first an average variation in NSAs staff members in the EU was estimated, taking into account the current structure of NSAs in the EU, which have different size and tasks. Aggregated variations in EU 12 and EU 15 MS were then computed, taking into account that only 25 out of the 27 MS currently have railway infrastructure and related institutions. In addition, as was done for the Agency, the estimated total variation in staff members were distributed across years assuming in any case that by 2020 all staff member variations have occurred.
- Gross cost of NSA staff members: estimated on the basis of the average staff cost resulting for EU 12 and EU 15 MS from the case studies undertaken. It was also assumed that there is no growth for EU 15 MS salaries over the period of analysis, while a 7% yearly growth rate for EU 12 salaries was used to close the existing gap with EU 15 ones.
- Overhead costs: computed at 25% of staff costs as for the Agency.
- Other costs: no cost additions were considered for NSAs.

Safety certificate revenues and cost coverage:

- Number of safety certificates: the numbers of forecasted safety certificates issued yearly in the EU in the 2015-2025 period was used (calculations explained above). Data have been disaggregated by EU 12 and EU 15 MS.
- Safety certificate fees: average current fees have been estimated on the basis of the data collected during the stakeholder consultation (a fee of €20k for EU 15 MS and €3 k for EU 12 MS). Future fees have been set equal to €10k across all the EU to take into account of a standardisation of payments and procedures.
- Revenue sharing: different criteria for sharing revenues between the Agency and NSAs have been identified for the different options analysed on the basis of the various contribution given by these institutions to this process. In the case of options 2 and 3 safety certificate revenues have been entirely assigned to NSAs (as in the current situation); in the case of option 4, different hypotheses have been made to test the impacts of the consequences of changing the distribution of revenues between ERA and NSAs, i.e.: option 4.a where ERA keeps 75% of revenues and NSAs 25%, option 4.b where revenues are equally split between ERA and the NSAs and option 4.c where ERA collects 25% of revenues and NSAs 75%.
- Distribution of Agency costs between safety and authorisation activities: to compute the extent that the share of safety certificates revenues can contribute to the coverage of additional Agency's cost in this area, the amount of additional Agency costs was estimated which could be attributable to the issuing of safety certificates. This has been set equal to 30% and 50% of total additional costs for the period 2015-2020 and 2020-2025 respectively. The percentage is assumed to increase from 30% of 2015 to 50% of 2020 because the forecasted reduction over time of the work related to type authorisation (due to a standardisation of vehicle fleets in the EU).

Figure VII-7: Key assumptions for calculations of cost of administration

Staff costs

ERA	Average annual gross cost of ERA staff (€)	Base year
from 1 to 10	100.000	2012
from 11 to 50	90.000	2012
from 51 to 150	80.000	2012
over 150	70.000	2012

NSA	Average annual gross cost of NSAs staff (€)	Base year	Annual growth rate of EU12 salaries (real terms)
EU 12	21.885	2012	7%
EU 15	87.237	2012	0%

Note: estimated on the basis of specific information collected from case studies

Total Variation of Staff

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
ERA		20	25	35	300	25
NSA (single)			-2	-3	-10	-2

Overhead costs

	% of direct staff costs
ERA	25%
NSA	25%

Other costs

Assumption
ERA Values for the different options computed on the basis of ERA evaluation study. They represent additional costs for travelling.
NSA Not applicable

Number of NSAs

	Number
EU 12	10
EU 15	15

Effects of combined options

Option 2&6	Option 3&6	Option 4&6	Option 5&6
0,95	0,9	0,65	0,4

Fees paid for safety certificates

	Current (€)	Future (€)	Base year
EU 12	3.000	10.000	2012
EU 15	20.000	10.000	2012

Revenue sharing ERA-NSAs

	ERA	NSA
Option 2&6	0	100%
Option 3&6	0	100%
Option 4&6		
a.	75%	25%
b.	50%	50%
c.	25%	75%

Distribution of additional costs

	Safety Certificate	Authorisation
Option 2&6	n.a.	n.a.
Option 3&6	n.a.	n.a.
Option 4&6		
2015-2020	30%	0,7
2020-2025	50%	0,5
Option 5&6	n.a.	0
2015-2020	30%	0,7
2020-2025	50%	0,5

10. Assessment of indirect impacts

Quantification of the indirect impacts set has not been carried out for a number of reasons:

- Considerable time and effort has been expended quantifying the direct impacts on costs and timescales of vehicle authorisation and railway undertaking safety certification. However, the complexity and multi-faceted nature of authorisation, in particular, means that precise estimation is not possible. Estimation of indirect impacts would therefore have been built off a base already containing a significant degree of uncertainty.
- One of the key links in the chain of causality between direct and indirect impacts is the impact of changes in vehicle authorisation costs and timescales on new entrant levels.

Whilst there clearly is an impact, authorisation costs are only one component of a large set of costs and barriers which will affect new entry into the rail market and any quantification of this link would necessarily have been tenuous at best.

- Relative to authorisation cost savings most of the indirect impacts are anticipated to be small.

Therefore the quantification of impacts is restricted to direct impacts only. In this context it is very difficult to identify a range of impact with the low/medium/high categorisation due to the level of uncertainty. However, 'low' means an impact hardly noticeable even at a country/market sector level, whilst 'medium' might be noticed in some countries and market sectors. Only 'high' impacts would be detectable at the EU level. Finally, for some categories impacts were assessed as zero where being so small as to be negligible.

Table VII-17 below presents the qualitative assessment summary; additional explanations follow. It is clear, and is discussed further below, that the global impacts are low across all options due to the very technical and sector specific impacts of the provisions within this initiative.

Table VII-19: Qualitative assessment summary

Impact	Key indicator(s)	Magnitude of impact (High/Medium/Low)				
		Option 2	Option 3	Option 4	Option 5	Option 6
Effect on freight transport demand	Total rail freight tonne km	Low	Low	Low	Low	Low
Effect on rail freight prices	Price per tonne km	Low	Low	Medium	Medium	Low
Modal shift (freight)	Rail freight mode share	Low	Low	Low	Low	Low
Effect on passenger transport demand	Rail passenger km	Low	Low	Low	Low	Low
Change in service levels	Train km	Low	Low	Medium	Medium	Low
Modal shift (passenger)	Rail passenger mode share	Low	Low	Low	Low	Low
Effect on operational costs (beyond direct effects)	Total industry operational costs	Low	Low	Medium	Medium	Medium
Effect on fares for passengers	Average fares for passengers	Low	Low	Low	Low	Low
Effect on rail investment	Total capital expenditure on rolling stock	Low	Low	Medium	Medium	Low
Effect on industry revenue (beyond direct effects)	Total rail industry revenue	Low	Low	Low	Low	Low
Effect on public funding	Total rail subsidy	Low	Low	Low	Low	Low
Effect on market structure	New entrant market share	Low	Low	Medium	Medium	Low
Effect on employment levels and working conditions	Total rail employment Average wage	Low	Low	Low	Low	Low
Effect on GHG emissions	Total CO ₂ emissions (tonnes)	Low	Low	Low	Low	Low
Noise emissions	Total noise emissions (in dB(A))	Low	Low	Low	Low	Low
Local air quality	Concentration of atmospheric pollutants	Low	Low	Low	Low	Low
Rail safety	Number of fatalities	Zero	Zero	Zero	Zero	Zero
Passenger security	Number of crimes on rail network	Zero	Zero	Zero	Zero	Zero
Maintenance costs	Total maintenance costs	Zero	Zero	Zero	Zero	Low
Global qualitative impact evaluation		Low	Low	Low/ Medium	Low/ Medium	Low

Additional explanation of qualitative assessment

Effect on operational costs: the dominant impact on operational costs will be the fall in vehicle authorisation timescales reducing the need to cover services using alternative rolling stock (either via lease or sub-contract) whilst waiting for delayed authorisations. This has been measured separately as part of the ‘opportunity cost’ indicator. The other key impact of

improved vehicle authorisation will be the removal of a significant barrier to entry for new entrants. It can be anticipated that an increase in new entrants will result in lower average costs in the industry.

Effect on rail freight prices: Rail freight prices will be impacted through two mechanisms:

- Reduction in prices through incumbent freight operators passing through a proportion of cost savings from cheaper authorisation to customers
- New entrants entering the market due to lower authorisation and certification costs reducing the barriers to entry

It is likely that the overall impact on prices will be low or medium at best in all options for three reasons:

1. Authorisation changes, though, substantial in absolute terms are only one component of railway undertaking costs
2. Since in many cases a large proportion of cost savings accrue to manufacturers and lessors of rolling stock as well as railway undertakings i.e. another step removed from customers some of the savings are likely to be taken in increased margin further up the supply chain
3. The majority of cost savings will still be for incumbent freight operators often operating in markets with little competition with low incentives to reduce prices

Effect on fares for passengers: As for freight prices it is likely that the impact on passenger fares will be low for all options. Given that the key impacts are for locomotives which overwhelmingly affect the freight sector, the impact on passenger fares is likely to be very small.

Change in service levels: Reduced authorisation costs could result in additional new entry into the market, stimulating increased service levels and also stimulate an improved service offer from incumbent operators. Impacts, however, are likely to be isolated to a limited number of specific cases, even in the highest impact options.

Effect on freight transport demand: Reduced authorisation costs could result in additional freight demand through lower prices and improved service offer. However, impact will be very small.

Effect on passenger transport demand: Reduced authorisation costs could result in additional passenger demand through lower prices and improved service offer. However, impact will be very small.

Modal shift (freight): A proportion of the additional rail freight demand will be abstracted from competing modes of freight transport. The key competitor mode for rail freight is road and therefore the majority of abstracted demand will be drawn from road haulage. However, with only a very small anticipated increase in rail demand, mode shift will be correspondingly very small.

Modal shift (passenger): A proportion of the additional rail passenger demand will be abstracted from competing modes of passenger transport. However, with only a very small anticipated increase in rail demand, mode shift will be correspondingly very small.

Effect on rail investment: Most railway investment, particularly at an infrastructure level is funded by public investment and as such is politically driven and likely to be independent of vehicle authorisation. There will be some impact on investment through faster authorisation enabling new investments to be brought forward in some instances although this is hard to quantify. Also, both authorisation and opportunity cost savings could be used to finance additional investment but again this is difficult to quantify since these

savings could also simply be used to reduce public subsidy requirements. Finally, increased new entry could generate additional investment. However, given the relatively small size of the combined opportunity cost and authorisation cost savings compared to total rolling stock investment (<3% in central case) and an uncertain link between cost savings and additional investment, effects on investment are not likely to be large.

Effect on industry revenue: Impact on industry revenue beyond any direct effects captured in the opportunity cost indicator will be low, reflecting the small changes in demand.

Effect on non-operational costs: The key cost change other than reductions in operational cost changes induced by new entrants will be a reduction in authorisation costs. Whilst the changes are substantial, as a proportion of non-operational costs they will be relatively low.

Effect on public funding: The impact on public funding will be composed of two key components:

- Change in costs and revenues of publicly funded RUs due to new entrants
- Reduction in authorisation costs borne by publicly funded RUs

Compared to the total level of public funding the effects will be low in all options.

Effect on market structure: The key impact of improved vehicle authorisation will be the removal of a significant barrier to entry for new entrants which will encourage more new entrants to the market. This will be most significant in countries where discrimination against new entrants is currently an issue. For options 4 and 5 this could have a noticeable impact in some countries.

Effect on employment levels and working conditions: There will be some impact on employment levels where additional staff are required to run additional services that become viable. However, in some instances it is likely that a portion of authorisation cost savings could be reflected in job reductions. Total impacts are hard to quantify but overall impacts are likely to be small.

The implementation of different policy measures would also have effects on the employees of NSAs and NoBos. The numeric terms, however, the effect would be rather limited, with staffing variations in the NSAs likely to change between 2 and 10 staff members on average, depending on the policy option implemented. The effects on NoBos would be assumingly negligible, as they would be marginally affected by the policy measure in terms of staff requirements.

Effect on GHG emissions, Noise emissions and Local air quality: Impact on these three indicators will be driven by three effects:

- Increased train service levels
- Faster introduction of more efficient, quieter locomotives
- Reduced travel on other modes (primarily road haulage and car use)

However, these effects will all be small with the most significant impact being from the introduction of more efficient locomotives.

Rail safety: Impact on safety standards will be very limited especially since safety standards are regulated by external authorities and therefore the key driver of safety standards is the effectiveness of those external bodies rather than the operators themselves. Additionally, the basic responsibilities of main actors as regards safety (RU, IM) will not be affected.

Passenger security: Very limited effect with none of the main drivers directly impacting passenger security.

Maintenance Costs: the measure on enhanced role of ERA in identifying potential spare parts to be standardised and coordination of industry activities in this area has a potential impact on maintenance costs by substantially reducing the cost of and number of spare parts required to be maintained.⁸⁰

Whilst the potential savings from standardisation are large it is not clear whether the measure is likely to realise a significant portion of these savings. Interested parties (i.e. manufacturers) have a strong interest in maintaining the status quo where they retain a position as monopoly supplier for many products. Therefore some form of legal requirement (e.g. inclusion of standardised parts in TSIs) would be required to achieve significant changes beyond the current voluntary arrangements. However, the Agency carried out a study into the interchangeability of spare parts in 2011⁸¹ which suggested that TSIs were not the appropriate mechanism with questions as to the feasibility of defining interchangeability in a TSI in a manner that was ‘transparent and non-discriminatory’.

⁸⁰ Evidence presented by Deutsche Bahn AG and SNCF to a European Parliamentary Lunch on the 8th February 2012 highlighted the substantial cost savings that could be generated by reducing the huge variety of non-standardised spare parts currently in existence. Spare parts represent a large cost to the rail industry with Deutsche Bahn AG and SNCF alone spending up to €500m a year on spare parts, representing up to 30% of their entire rolling stock purchase budget. Deutsche Bahn AG estimates that standardisation of the rail wheels they use could reduce the number of wheel types they currently stock from 190 to just 15 with an associated cost saving of 60% on their circa €50m annual wheel budget. Wheels represent only one area of potential savings with other items for potential standardisation identified by Deutsche Bahn AG and SNCF. In total there is the potential to save hundreds of millions of euros annually with the widespread standardisation of spare parts.

⁸¹ <http://www.era.europa.eu/Document-Register/Documents/Report%20on%20study%20on%20interchangeable%20spare%20parts.pdf>

ANNEX VIII

IMPLEMENTATION OF THE PREFERRED OPTION

This annex gives an overview of how the preferred option – combination of options 4 and 6 – is planned to be implemented, both in terms of resources and planned policy measures. Individual measures contained in these options respond to the three main administrative challenges identified: safety certification, vehicle authorisation and the functioning of national railway regimes (inefficient national authorities and diverging rules).

1. Resources required

As Table 6-5 in Section 6.5.1 shows, implementation of option 4 combined with option 6 will require 55 additional staff (by 2020). The planned additional personnel would cover the following categories:

- Technical experts (45 persons), to deal predominantly with issuing of authorisations for placing on the market of vehicles and vehicles types, authorisations for placing in service of trackside control-command and signalling sub-systems and safety certificates;
- Linked administrative staff (10), including two accountants to deal with management of a planned system of external fees and charges, and accountancy with national authorities;

Regarding the planned costs increase, out of the gross cost increase estimated at €6.6 m, €5 m can be attributed to the direct staff cost and €1.6 m to overhead and other costs. It must be noted that the overhead costs are estimated at a sufficient level to cover the following important activities of the Agency:

- Translation of decisions issued by ERA into national languages;
- IT system needed for accountancy purposes (external fees and charges, accountancy with national authorities).

Finally, as Table 6-9 in Section 6.5.4 demonstrates, there is a high probability that implementation of the preferred option will not have any, or a minimal, impact on the EU budget. This is due to the possibility of charging the applicants for issuing of safety certificates and vehicle authorizations by ERA. As this work will be to some extent performed together with the NSAs, three general scenarios were constructed to illustrate how the fee revenues would be shared between the Agency and the NSAs. In case of scenario (a) (25% of planned external revenues attributed to the NSAs and 75% to ERA) the additional call on the EU budget will be zero as the coverage of additional costs of the Agency will be 127%. In case of scenario (b) (50% NSAs, 50% ERA), the additional call on the EU budget will be €6 M (over 2015-2025), as the coverage of additional costs of the Agency will be 86%. In case of scenario (c) (75% NSAs, 25% ERA) there would be a more substantial additional impact on the EU budget (€25 m over 2015-2025).

2. Single safety certificate

The concept of a single safety certificate for railway undertakings, already indicated as a target in the original safety directive of 2004, should be implemented in the following way:

- 1) ERA would issue all single EU safety certificates requested by the railway undertakings using knowledge and experience of the NSAs; such a certificate will be valid in all EU Member States.
- 2) To this end the railway safety directive needs to be modified in order to remove the requirement of part B certificate and the certification process will consist of following elements:
 - (a) The applicant submits his request to ERA.
 - (b) As appropriate, ERA requests one or more the NSA(s) to carry on an audit of the RU.

- (c) Taking into account the results of the audit(s) ERA takes the decision for issuing the certificate.
- (d) As already provided by the legislation in force, each NSA performs supervision of all RUs operating in its country. A report will be produced for each inspection/audit. Once a year, all reports are transmitted to ERA and to the NSA(s) of the MS(s) where the same RUs are operating.

3. Single rail vehicle authorisation

The current process should be simplified and modified in such a way that there is no longer any need for an additional authorisation for each Member State where the vehicle is being used. The proposed new process would be the following:

- 1) The first authorisation is issued by ERA and consists of a "vehicle passport" which would in principle be an extract of the future ERATV (European Register of Authorised Vehicle Types – to be implemented by ERA in accordance with Commission implementing decision N° 2011/665/EU). The "vehicle passport" would attest the values of the parameters specified in the TSIs as being relevant to check the technical compatibility between the vehicle and the network. The values themselves can be compliant with the TSIs or, in some justified cases, with the national rules. The "vehicle passport" may stipulate conditions for use and other restrictions.
- 2) The vehicle passport would not include anymore the aspect of compatibility with the national network. The compatibility with any specific network is already, according to the railway safety directive, a responsibility of the railway undertaking and will be checked by the railway undertaking with the help of the future RINF (Register of Infrastructure – to be implemented by Member States and ERA in accordance with Commission implementing decision N° 2011/633/EU).
- 3) The TSIs will have to be modified in order to include not only the procedures to verify conformity with the TSI (which exist already), but also the procedure for checking the compatibility between vehicle and the network and the roles of all actors involved. The results of the checks would lead to individual decisions by the railway undertaking to place a vehicle in service, and this would replace the additional authorisation(s).

4. Functioning of national railway regimes

In order to improve the (often inefficient) functioning of national authorities, ERA would have the duty to monitor the performance and decision making of the NSAs, including the right to audit:

1. capacities (staffing, financial resources) of NSAs to execute tasks related with railway safety and interoperability, and
2. effectiveness of their operations as regards monitoring of safety management systems of railway undertakings, infrastructure managers and entities in charge of maintenance.

In parallel, ERA would also play a greater role in the certification process by supervising and coordinating the Notified Bodies, especially to ensure that they perform in a more harmonised way; this is of particular importance in relation to ERTMS. It means that ERA would:

- check that the NoBos meet the criteria provided for in annex VIII to the Interoperability Directive, and to recommend any change necessary for the NoBo to retain the status conferred upon it (accreditation criteria);

- define guidelines and templates for the assessment of conformity or suitability for use of an interoperability constituent and for the EC verification procedure (e.g. templates for the certificate, for the technical file, test report template, checklist);
- check that application files to be submitted to the NoBo are adequately documented (including product/component test reports, on-site/in-vehicle/in-labs integration test reports) before the EC verification procedure of individual ERTMS (on-board or trackside) subsystems is launched;
- check that the NoBos perform the EC verification procedure in a common (high quality) manner and report as less as possible "reservations" in the certificates they deliver;
- check that the technical files are adequately documented before the authorisation of individual ERTMS subsystems are requested;
- guide all NoBos in ERA ad-hoc ERTMS coordination group.

In addition ERA should check that calls for tenders published in the case of individual deployment projects are in line with the ERTMS specifications (stemming from measure "Enhanced role of ERA in providing advice and support for Member States and other stakeholders in implementing legislation on safety and interoperability" (option 6)) .

Regarding the migration from the system of national rules to the common EU rules, the possibility of adopting new national rules by Member States will be limited to strictly defined cases. In this context, ERA would:

- (a) Continue the work of cataloguing and evaluating national rules;
- (b) Identify (in consultation with relevant national authorities) of which of the national rules can be removed;
- (c) Request the national authorities the removal of unnecessary and obsolete national rules.

In case the national authorities disagree, they could refer to the Commission which will take a final decision whether to reverse the decision of ERA or to pursue it, including launching the infringement procedure against a Member State in question, if necessary.

5. Possible implementation problems linked with the preferred option

Besides possible political difficulties to have the proposed changes agreed (especially in relation to giving up a part of power by national authorities), the implementation of the preferred option could pose problems, including:

1. Legal inconsistency:

There is a risk that the interoperability and safety part of the 4th Railway Package (the Interoperability and Safety Directives, and ERA Regulation) will not be adopted at the same time and/or important provisions of the three acts dealing with the same issue will differ. Similarly, it might happen that the Directives are implemented later than the effects of the Regulation take place. Another possible risk is linked with eventual delay of adoption of implementing measures setting out details of cooperation of ERA and the national authorities and fees and charges modalities. All this could lead to delays in effective phasing-in of the impacts of the preferred option and/or reduce its benefits.

2. Preparedness of the main actors:

There is a risk that implementation of the preferred option could be delayed by low degree of preparedness of the main actors (ERA, national authorities) to undertake new tasks. At the national level

this could be linked with political/vested interests' opposition to the changes, while at the level of ERA a possible opposition to a partial restructuring of the Agency and the change of operational methods could be the main reasons. Similarly, the maturity of the overall railway system must be sufficient in order to move towards issuing single safety certificates and vehicle passports; without these prerequisites, the target dates envisaged in the impact assessment might not be attained.

3. Financial difficulties:

There is a risk that there will be not enough financial resources (at the EU level) to sufficiently cover the needs of the enhanced Agency. It is not impossible that after the legal act is adopted, the following establishment plans for staff and annual budgets will be cut down by the Budgetary Authority.

4. Cooperation between ERA and national authorities:

It is not excluded that following adoption of the legal act the relations between ERA and national authorities, especially the NSAs, will deteriorate. Currently the Agency is a "partner" to national authorities and stakeholders, while in the future it will have more control functions, which can have a negative effect on the quality of their cooperation. Moreover, there might be problems with problematic cooperation between ERA and the NSAs regarding issuing of vehicle passports and safety certificates. This is supposed to be a shared work, however the exact extent and scope of this cooperation is still to be established by the implementing acts, to be adopted later. There is a risk that these implementing acts will not cover sufficiently well all the necessary details of cooperation and/or this cooperation will not be smooth due to other reasons, mainly political or linked with the defence of vested interests. Also, the issue of responsibility for the decisions to be taken might come up. Another potential source of conflict may be the level of external fees and charges, and their division by ERA and the NSAs.

5. Relations with stakeholders:

There is a risk that railway stakeholders, especially the main railway undertakings, could start exerting pressure on ERA, for example with a view to adapt the future level of charges for issuing of vehicle passports and safety certificates to their needs or to follow their policy line. It will probably be easier for them to put pressure on a single EU body that has to work in a transparent way and should in principle listen to the needs of stakeholders. The evolving role of ERA towards an authority charging for some of its services could be also a possible source of problems, as far as relations with stakeholders are concerned.

ANNEX IX
LIST OF ABBREVIATIONS

CER	Community of European Railways and Infrastructure Companies
CSMs	Common Safety Methods
CSTs	Common Safety Targets
EASA	European Aviation Safety Agency
EBA	Eisenbahn-Bundesamt (German NSA)
EBC	EISENBAHN-CERT (German NoBo and certification and inspection body)
EMSA	European Maritime Safety Agency
ERA (or the Agency)	European Railway Agency
ERATV	European Register of Authorised Vehicle Types
ERTMS	European Rail Traffic Management System
ETCS	European Train Control System
EU-12	Member States accessed the EU since 2004
EU-15	EU Member States before 2004
IM	Infrastructure Manager
NIBs	National Investigation Bodies
NoBos	Notified Bodies
NPV	Net Present Value
NSAs	National Safety Authorities
NSRs	National Safety Rules
NTRs	National Technical Rules
PRM	Persons with Reduced Mobility (a TSI)
RB	Regulatory Body
RINF	Register of Infrastructure
ROSCOs	Rolling stock leasing companies
RU	Railway Undertaking
SDG	Steer Davies Gleave
SMS	Safety Management System
SRT	Safety in Railway Tunnels (a TSI)

TSIs	Technical Specifications for Interoperability
UIC	International Union of Railways
UNIFE	Association of the European Rail Industry