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# CER RAIL FREIGHT NOISE STRATEGY

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# CER Rail freight noise strategy

## Executive summary

### Key messages for the policy makers:

- CER acknowledges that rail freight noise is an important issue. Its members are putting the highest effort into addressing the problem and have set themselves goals to effectively reduce rail noise in the upcoming years while maintaining the competitiveness of the rail sector vis-à-vis other modes.
- CER is also aware of specific noise problems in passenger traffic such as aerodynamic noise for high-speed trains or parking noise.
- Although noise is a local externality, rail freight noise is a European issue. Some Member States are more concerned than others but freight transport is international and traffic in and through noise-sensitive Member States accounts for an important essential share of the EU's total rail freight traffic volume. If no European solution is taken this will be a major threat for rail freight business along the most busy rail freight corridors in Europe.
- EU policymakers should ensure that measures leading to less rail freight noise do not have a negative impact on the rail freight competitiveness. It is proven that rail freight provides an environmentally friendly solution to achieve the goals of the 2011 Transport White Paper. Policymakers have to take into account that measures such as unilateral vehicle or circulation bans must comply with the EU legal framework. Otherwise they would go against the principle of free movement of goods and would lead to significant weakening of rail freight in Europe with a reverse modal shift to road.
- Therefore only European-wide solutions shall be taken into account. Measures on the European level shall be appropriate and they shall take into account the specific situation of rail freight.
- The most effective measure to reduce rail freight noise is to equip freight wagons with low-noise brake blocks. Where appropriate, a mix of policy measures (combination of abatement at source and mitigation at receiver) shall be taken into account. Noise-differentiated track access charge systems, where installed, have to be kept simple and shall not create any additional bureaucratic burden for the sector.
- Retrofitting of wagons leads to huge additional costs for the sector. As long as noise is not subject to the polluter-pays principle across both road and rail in a balanced and effective manner, any measures to reduce railway noise emissions should be accompanied by public financial support measures that cover the full cost of the measures imposed.



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## 1. Introduction

The CER Noise Strategy brings together in one place the policy principles required to influence the upcoming EU noise measures. It sets the mid-term strategic direction for noise policy within the CER membership and outlines steps to tackle the noise issue by CER members. It addresses the relevant measures at EU level in particular the European Commission's Staff Working Document (SWD(2015) 300 final) on rail freight noise. The overall aim is to effectively reduce rail noise in the upcoming years while maintaining the competitiveness of the rail sector vis-à-vis other modes.

Noise is a side effect of all major modes of transport. It will remain the key environmental problem for the European railways for a long time due to the inherent nature of the problem and its link to transport growth. In the context of the optimal policy mix presented by the SWD and of the future revision of the Environmental Noise Directive (2002/49/EC), public concern on rail freight noise, where it exists, should not be ignored by the sector.

For those regions, where noise is not a current political concern, it has to be noted that people can be mobilised relatively easy when exposed to noise. CER members should therefore have a forward looking strategy addressing the noise issue. Nevertheless rail freight noise is a European issue. Some countries are more concerned than others but freight transport is international and traffic in and through noise-sensitive European regions accounts for an important essential share of the EU's total rail freight traffic volume. If no European action is taken this will be a major threat for rail freight business along the most busy rail freight corridors in Europe.

## 2. The legal basis for noise at EU level

The current legislative overview proves that several measures to reduce noise produced by rail traffic are already in place. The EU legislation distinguishes between two levels: noise creation (the emission of noise at source), and noise reception (what to do once noise has been emitted).

### *At source*

The technical specification for interoperability relating to the subsystem 'rolling stock-noise' applies to all rolling stock within the scope of Regulation (EU) No 1302/2014 (LOC&PAS TSI) and Regulation (EU) No 321/2013 (WAG TSI) comprising locomotives, diesel and electric multiple units, freight wagons, and passenger coaches. This piece of EU legislation sets limit values on noise emissions, which have to be met by individual products when placed on the market according to the requirements of the Interoperability Directive (2008/57/EC).

The TSI Noise requires only new rolling stock placed on the market since 2006 and renewed or upgraded rolling stock to comply with strict noise limits. Therefore there is still a large amount of older rolling stock that does not comply with the TSI. This is why noise mitigation measures to this stock, particularly retrofitting freight wagons that are currently equipped with cast-iron brake blocks, is being considered since composite brake blocks are deemed to be TSI compliant.

Noise creation measures are best implemented on an EU-wide level (otherwise this would create interoperability and Single Market problems leading to a trade-off with environmental interests of local residents).

### *At reception*

From a general perspective, the Environmental Noise Directive (END), that has been in place since 2002, has certainly contributed to better understanding of environmental noise and therefore pushed national and local authorities to develop action plans, allowing the European citizens to be informed about their health risks. The END specifies that Member States must calculate noise exposure levels and publish corresponding noise maps (also called 'strategic noise maps'), ensure that information on noise exposure is publically accessible, and adopt action plans to prevent or reduce noise exposure where necessary. The Commission is currently analysing the END with a view of regulatory fitness (REFIT). Based on the REFIT results, the Commission will identify the next steps such as amending the Directive in the future.

Noise reception measures, while subject to EU framework legislation, are best implemented at national or regional or local levels in line with the principle of subsidiarity.

### *Outlook*

The World Health Organisation (WHO) works in close co-operation with the scientific community in developing indicators and guidelines for noise and health. Initiatives from WHO have direct consequence on policies aimed at managing environmental noise in the EU. WHO/Europe is currently in the process of developing the WHO Environmental Noise Guidelines for the European Region as a regional update to the WHO Community Noise Guidelines. An important aspect of this update will be a review of evidence on the health effects of environmental noise and it will assess environmental noise sources including rail.

Looking ahead, in order to deliver a noticeable noise level reduction for citizens in the short- and medium-term, the Commission has examined a range of policy options regarding the effective reduction of rail noise of freight wagons in use. Following an impact assessment procedure, the Commission worked on an overarching Communication on the rail freight noise. After delaying the publication of the Communication, the European Commission decided to adopt it as a SWD.

In order to effectively reduce the rail freight noise and at the same time keep the railway sector competitive, the Commission proposes a policy mix that includes:

- the harmonisation of noise-charging principles;
- a recommendation on financial support to help the sector make the fleet more silent;
- development of noise-related standards of railway infrastructure;
- the gradual applicability of noise limits set by the EU technical specification for interoperability (TSI) to freight wagons that carry out international transport operations, followed by an obligation for all freight wagons circulating in the EU to be compliant with the same noise limits.

In March 2015, the Commission adopted the Implementing Regulation (EU) 2015/429 on optional introduction of noise-differentiated track access charges (NDTAC), thus charging principles are already harmonised across the Union.

Given that the Commission published only a SWD, very limited political reflection is expected in the short run. In practical terms, the next stage for the Commission is to get involved with the European Railway Agency to revise the TSI Noise for a scope extension of applying limit values to existing wagons as from 2022. TSI Noise revision would be achieved by a Delegated Act and follow a step-by-step approach; starting with international wagons with an opting-out possibility, under certain

conditions for certain Member States. The Commission is considering to achieve a full applicability of TSI Noise limit values to all existing wagons at a certain point in time. According to the Commission's calculations only 3% of the European wagon fleet is estimated to be noisy by 2026 if the policy package proposed in the SWD is applied. This would be particularly sensitive since any attempt to legislate requirements on the vehicle side that would imply a need for retrofitting and/or accelerated fleet turnover could, if not fully funded, lead to a reduction of competitiveness for the sector. It would be disproportionate and costly to impose mandatory application of TSI Noise limits to all wagons. This brings us to the outstanding issues of the Commission SWD in how to deal with the costs of retrofitting, including the operational costs. In terms of funding, the Commission refers to the annual calls of the Connecting Europe Facility (CEF) and the complementing Member State subsidies. According to the Commission, to minimise the possible competition distortion in the internal market, such financial support schemes should be limited in time (until the end of 2021 at the latest) up to a maximum amount and comply with the EU's state aid rules (limited to 50% of relevant investment costs). Without financial support this could lead to negative modal shift towards road.

The action on the infrastructure points at the Shift<sup>2</sup>Rail to channel research activities with respect to rail grinding together with other relevant track maintenance technologies. A parallel and additional acoustic maintenance regime, which would significantly increase maintenance costs and bring few further noise reductions only, is not appropriate. CER welcomes the Commission view in acknowledging that a comprehensive cost and benefit analysis shall be carried out to demonstrate the positive effects of a new harmonised acoustic maintenance regime for the rail surface. This is in line with the CER position paper on track maintenance for noise control by means of acoustic grinding published in June 2015<sup>1</sup>.

In the long-term perspective though, a properly made revision of the END might be the most optimal way forward as it could provide a wider and fair framework of internalisation of noise externality of all transport modes based on the polluter-pays principle.

### 3. Noise mitigation strategy of the rail sector

Railways have an almost negligible impact on climate and environment compared to other modes of transport. The only remaining environmental challenge for the European rail sector is noise – a side effect of railway operation. Striving to tackle this problem, the rail sector has a long history of noise mitigation and is committed to continue making progress based on cost-effective noise mitigation solutions.

#### 3.1 Mitigation measures

##### *At source*

**Rolling noise** is considered as the main source of noise associated with the railway system. Rail freight rolling noise is subject to rail and wheel roughness. Rail roughness is caused by cast iron brake blocks. The railways must therefore retrofit to composite blocks from the cast iron brake blocks (see 3.2).

Proper maintenance of the infrastructure, which relies on standard track maintenance curative and preventive grinding, has positive effects on railway noise after a transient period. A parallel and additional acoustic maintenance regime, which would significantly increase maintenance costs,

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<sup>1</sup> <http://www.cer.be/publications/latest-publications/track-maintenance-noise-control-means-acoustic-grinding>

reduces track availability and bring few further noise reductions only, is not appropriate.

Additional methods are used for specific nodes such as control of curve squeal using friction modifiers or absorbers against steel bridge noise, which also should be considered in (European) noise calculation models. Quieter tracks require advanced thus costly track and rail design, embedded rails, shielding and low-noise bridges.

**Traction noise** depends mainly on the locomotives and railcars. Diesel engines can be a source of pass-by noise or during acceleration phases. Auxiliary systems such as cooling fan noise can be another noise source.

In addition to rolling and traction noise, many other sources may cause noise. Compared to rolling noise, these occur in special situations only. Railway sector is aware of these other sources including passenger traffic:

**Aerodynamic noise** concerns mostly high-speed trains (at speeds of 250 km/h or more) with respect to their design including their pantographs. Requiring improved and powerful simulation models for the airflow and associated noise generating mechanisms, pantograph noise in particular constitutes a special challenge for controlling both aerodynamic noise and contact noise. Noise from the pantograph cannot be screened efficiently unless the barrier is very high.

TSI Noise currently contains limit emission values for stationary noise. A recent UIC study<sup>2</sup> touches upon the wider issue of **parked train noise**. Noise emissions from parking noise could be harmonised by the introduction of limits in the TSI in the longer term.

**Shunting yard noise** bring together both locomotive noise, rail brakes and buffer noise as well as rolling noise through joints and switches.

#### ***At reception***

A most common method at reception is constructing noise barriers (walls, berms, in extreme cases bypasses and/or tunnels) between the railway lines and inhabitants. This should however be limited to the justified cases since it is far less economic than the noise abatement measures at the source (see below). The replacement of noise barriers and their maintenance costs have to be considered as well.

#### ***Near the receiver***

Finally, actions can be taken near the inhabitant. These local actions to reduce noise reception are usually in the form of noise insulated windows, ventilation systems and insulation of housing. Urban planning should also involve noise abatement aspects especially along TEN-T corridors and in particular in densely populated areas.

### ***3.2 The economics of noise reduction***

The economics of railway noise control has proven that noise barriers, especially high ones have a poor cost-benefit ratio, while retrofitting brake blocks has the best cost-benefit ratio (STAIRRS project).

The regular replacement of fleets would ensure that all railway vehicles including wagons will be

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<sup>2</sup> <http://www.uic.org/spip.php?action=telecharger&arg=118>

low-noise around 2035 assuming a lifetime of rolling stock of 25-35 years. This is due to the solid and sustainable wagon design and therefore slow renewal rate of wagons due to their long lifespan. It was estimated that 10% of Europe's 400,000 wagon fleet is silent in 2015, but with a high variance between the countries.

With the aim of lowering the rail freight noise faster, existing wagons can be retrofitted with braking components. An important development in this regard is the € 15 million funded EuropeTrain project, which led to the homologation of new composite brake blocks that are cost-effective in terms of retrofitting existing freight wagons.

The rail sector is putting the highest effort into addressing the problem of reducing rail freight noise though facing huge costs to retrofit freight wagons before the end of their natural lifespans. Moreover, besides the retrofitting costs, the usage of composite brake blocks in retrofitted wagons also causes higher operating and maintenance costs due to a significant greater wheel wear. Current experience concerning life-cycle costs for composite brake blocks show cost increases ranging from 2-16% (Silent freight vehicles on the Rhine-Alpine Corridor Workshop, 2015). If not fully funded, this is likely to have a significant negative impact on the competitiveness of railways compared to other less environmentally friendly modes of transport. Beyond that companies have no incentive to retrofit their wagon fleet as they are unable to pass the resulting high expenditures to the market due to the intense price competition with road transport.

Another challenge is on the availability of composite brake blocks. There are no homologated composite brake blocks available for several types of wagons, such as those with small wheels (less than 760 mm), heavy vehicles and low tare weight vehicles. There is no replacement solution for these classes of vehicles, so they need to continue to circulate freely across the Union and be entirely excluded from the scope of operational measures.

Despite the fact that retrofitting is cost-effective, the most commonly used noise abatement strategy are noise barriers. A reason for this is that in the absence of efficient public funding, and because of higher operating costs companies have no incentive to retrofit their wagon fleet.

The best way to deal with transport noise in general would be to have a global view on all external costs of all transport modes and deal with them in a similar way. The process of internalisation of external costs should be carried out taking into account the principle of proportionality, a proper level playing field between transport modes and bearing in mind the negative trend which rail transport faces in Europe despite the importance given to it in the 2011 Transport White Paper.

As long as noise is not subject to the polluter-pays principle across aviation, road and rail in a balanced and effective manner, any measures to reduce railway noise emissions should be accompanied by financial support measures that cover the full cost of the measures imposed. However, those financial support measures are often subject to the budget limitations of the Member States which have to make choices between different priorities.

### ***3.3 A strategic framework for rail noise mitigation***

CER is committed to pursue noise reduction efforts based on the following strategic framework:

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- The railway sector promotes retrofitting of the cast iron brake blocks of existing freight wagons with composite brake blocks. However, remaining financial, technical and administrative concerns must be addressed. In particular the competitiveness of the railways must not be endangered. In addition all new wagons conform to the TSI and are thus silent.
- The railways construct noise barriers where the noise effects from retrofitting of existing wagons with composite brake blocks are insufficient. This complementary measure must meet cost-benefit criteria, however.
- In certain hot spots further measures on the infrastructure (e.g. damping of the track) can be tested if they fulfil satisfactory cost-benefit criteria.

Mitigation of railway noise requires a system optimisation, starting at the source. Combining measures such as combining retrofitting the rolling stock with local state-of-the-art infrastructure measures, like noise barriers, may provide the best cost-benefit ratio. Further optimisation of the entire railway system would probably lead to lower overall costs and higher benefits for all stakeholders. If in this processes advanced solutions for noise optimised track will be found, the installation of noise barriers might be re-assessed as well as the related funding schemes.

It has to be noted that the situation in certain countries can require slight adaptations to this strategy. At the first place the common pool of 1520 mm wagons represents a specific case. Also heavy winter conditions in Nordic countries present a challenge for the safe functioning of composite brake blocks, mainly due to prolonged braking distances caused by accumulated ice and snow. This might lead to a necessity of country specific adjustments concerning domestic traffic.

#### 4. Ideas for developing an action plan by the sector

CER advocates a European solution in dealing with rail freight noise. However this is currently missing. Furthermore there is a lack of consistent approach, which means that other transport modes are not facing similar levels of costs. We are nevertheless in a transition period with certain financial incentives on the table (The Annex 1 provides more details about the available funding instruments). Despite there is lack of consistent and adequate public funding the European railway sector needs to act proactively and have a forward looking approach. This approach should be based on a combination of mechanisms that minimises disruption, loss of competitiveness and costs to the rail sector. The overall goal is to make rail freight possible in noise-sensitive countries in the future.

The ultimate focus should be on the existing wagon fleet. An initial step should be a detailed analysis of methods for wagon fleet optimisation in order to manage the situation when some countries apply a ban on cast iron brake blocks. This should be performed for all freight wagons (intermodal and conventional) to prioritise retrofitting. Wagons that are very old can be replaced by TSI-compliant new wagons thus deteriorating consequences to rail freight business will be avoided. The remaining wagons, in particular the international ones operating in noise-sensitive countries, can be retrofitted by using the CEF grants or national funds available also to foreign wagon keepers. The analysis will also help detecting the wagons that are currently not being used or are not economically viable to use in the near future. Those wagons shall benefit from scrapping incentives rather than retrofitting.

Several railway undertakings have tested new collaboration practices, through production alliances allowing the pooling and sharing of resources such as locomotives. These practices could be enhanced by wagon sharing. Maximising load factors for wagons in international transport would relieve the situation somewhat. In addition, less noise-sensitive Member States can provide specialised wagon pools for the transporting goods to destinations in noise-sensitive regions. Financial instruments such as guarantees for bank loans and support instruments for public-private partnerships could be considered for certain joint investments.

With regards to the technologic innovation the rail sector has developed various sector funded or EU co-funded research and innovation projects to understand and mitigate railway noise. Various UIC projects (See Annex 2) relate to best practice sharing and benchmarking. Programmes to innovative measures are mainly at infrastructure level. Looking ahead, cost and benefit of migration to disc brakes can be assessed. Whole system optimisation (life-cycle cost analysis for infrastructure, noise, vibrations) should be the guiding principle for shaping the research agenda. A recent example is in Switzerland with the new financial support for research and innovation related to noise, and in Austria since 2011 the railway noise topics within the annual calls on 'transport infrastructure research'. Given the low profitability in the rail freight business and the current financial challenge of retrofitting existing freight wagons comprehensive innovations from the sector could only be implemented in the longer term.

## 5. Message for the policy makers

Rail transport is one of the most environmentally friendly and energy efficient transport modes.

According to European Environment Agency State and Outlook 2015 road traffic is the dominant source of noise in terms of the numbers of people exposed to harmful levels. Furthermore for equal noise exposure level the level of annoyance is much higher for road and aircraft noise than for rail noise. This fundamental difference in perception of annoyance of the inhabitants depending on the transport mode shall be kept in mind when talking about traffic noise.

When looking at environmental issues in general, the recent Eurobarometer (September 2014) concluded that Europeans worry the most about pollution, waste generation and depletion of natural resources. In comparison only 15% of the Europeans say that they are worried about noise pollution, which is perceived as a local externality. Noise is a local issue by definition and rail noise is considered a particular nuisance in hot spots.

However, the contribution of rail transport to noise pollution cannot be neglected. In some European regions there is substantial public opposition to rail freight noise and growing appetite for political initiatives to reduce it sooner than the natural renewal rate of wagons due to their lifespan. Given that freight transport is international this will be a major threat for rail freight business along the most busy rail freight corridors in Europe if no European solution is taken to address the noise for all modes of transport. Reverse modal shift from rail to road would be the consequence and should be avoided, also when bearing in mind the targets of the 2011 Transport White Paper. CER asks for policymakers to create a level-playing field between transport modes, also in view of the upcoming road package.

Over the years the European railways have become quieter and will continue to do so.

A phased and target driven retrofit of the European wagon fleet with the technology should be carried out on the basis of direct national funding, complemented by European funding. The main focus should be on reducing noise along heavily trafficked freight transport corridors. Currently incentives for retrofitting do not have adequate financial means. CER, therefore, stresses the challenges to the rail freight sector's cost structure which result from such specific policy choices.

For those wagons that are for domestic routes in less noise-sensitive countries it is evident that the CEF cost coverage will not be sufficient to cover the total costs of the retrofitting process. An approach to increase the cost coverage may be to retrofit 20% of the fleet completely instead of 20% of the eligible costs of each wagon excluding the operational costs since they are not covered by the CEF. The retrofitted wagons could then benefit from the bonuses that are applied on the network with NDTAC schemes (e.g. Germany, the Netherlands and Switzerland). These bonuses would generate additional financial resources that could be used to finance the retrofitting of the remaining wagon fleet.

Nevertheless a fair proportion of the financing of retrofitting must originate from outside the sector. It is therefore in the interest of society as a whole to have this public financing. EU policymakers have a duty to ensure that competition within the sector and with respect to other transport modes are not distorted. The availability of financial resources must be made consistent with the policy goals set by decision-makers. In particular, the Commission should at least make full use of the provisions set in Article 10 of the CEF Regulation (See Annex 1), which caps the budget available for projects aimed at reducing noise caused by rail freight at 1% of the 2014-2020 CEF transport budget (around € 250 million).

The rail sector opposes all restrictions to operational measures that restrict competitiveness such as night bans, speed restrictions or rerouting. CER welcomes the fact that in its SWD the Commission acknowledges the risks related to such measures being implemented unilaterally by certain Member States and also the possible consequences of unilateral bans of non TSI-compliant wagons (breach of the principles of interoperability, likely distortion of competition and obstacles to trade, as well as the freedom of movement of goods and provision of services), which would also lead to a reverse modal shift.

What is more, any timetable of a progressive European ban of noisy wagons will have to take into account various parameters:

- In the case of retrofitting, the ability of keepers to retrofit their wagons in line with their usual workshop visits frequency;
- In case of fleet renewal, the ability of wagon manufacturers to supply enough new rolling stock on time as well as the time needed to certify new rolling stock;
- The need for gathering enough experience with composite brake blocks. A safety event occurring with the existing composite brake blocks would leave the sector with no alternative, as the current number of suppliers (only two) and the current amount of certified brake blocks on the

market (only two) are limited;

- Last but not least, it must give enough time for the actors of the logistics chain to progressively and smoothly absorb the higher operational costs that occur with both newly-fitted wagons and retrofitted ones. The timetable of the European ban on noisy wagons must be as much as possible compatible with the normal pace of fleet renewal.

Funds should be made available for closing the gap between operational needs, research and innovation efforts and industrialisation processes. As one of the essential instruments the Shift<sup>2</sup>Rail Joint Undertaking should fund projects aiming at reducing the negative externalities linked to railway transport, in particular noise.

Additional measures are also needed to:

- Stimulate the development of new composite brake blocks in order to improve the quality of the offer and limit the increase of operational costs;
- Stimulate the offer of composite brake blocks as there are currently few suppliers and few models available.
- Make sure that the acoustic performances of new types of composite brake blocks are assessed in a harmonised way during their process of authorisation to put into service in order to prevent having new but noisy composite blocks.

## **Annex 1**

### **European Commission incentives**

#### ***Commission Staff Working Document SWD(2015)300 final*** ***Rail freight noise reduction***

### **1. Why the problem of railway noise is important**

Noise is one of the most widespread public health problems in the European Union, with ongoing high costs to society. According to the World Health Organisation (WHO)<sup>1</sup>, noise in the EU comes in second place, after air pollution in terms of causing disease and in the number of premature deaths. Economic costs of noise pollution include devaluation in house prices, productivity losses from health-related impacts, and distributional impacts. The health-related cost of road and rail traffic noise across Europe is huge, amounting to € 40 billion in 2010, and is expected to increase unless further action is taken.<sup>2</sup>

The European Environment Agency (EEA) estimated in 2014<sup>3</sup> that railways are the second most dominant source of environmental noise in Europe, with nearly 14 million people affected (more than 4 million people estimated to be exposed to major railways transport outside urban areas and 9.5 million people estimated to be exposed to railways transport noise inside urban areas).

The general awareness of noise pollution has been rising in the EU over the last few years. Recent Eurobarometer survey results show that 29 % of EU-28 citizens are often or very often disturbed by traffic noise; of these, 13 % are affected by rail noise. According to the survey, the European citizens most disturbed by rail noise are Dutch (22 %), followed by Irish (20 %), Danes (20 %) and Austrians (19 %). The annoyance level in Germany is slightly higher than the EU average (15 %) and similar to that in the Czech Republic (15 %), Italy (16 %), Romania (16 %), Slovakia (15 %), Sweden (14 %) and the United Kingdom (14 %).

Noise is already a major reason for public opposition to rail transport in many European regions. In addition, according to the EU Reference Scenario 2013, rail freight traffic is expected to increase by more than 50 % by 2030, compared with 2010 levels. This means that reducing rail noise is becoming a condition to the development of the rail sector, which plays an important role in ensuring a sustainable mobility for European citizens.

### **2. What has been done so far at EU level**

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<sup>1</sup> [http://www.euro.who.int/\\_data/assets/pdf\\_file/0008/136466/e94888.pdf?ua=1](http://www.euro.who.int/_data/assets/pdf_file/0008/136466/e94888.pdf?ua=1).

<sup>2</sup> COM(2011) 321, Report from the Commission to the European Parliament and the Council, on the implementation of the Environmental Noise Directive in accordance with Article 11 of Directive 2002/49/EC.

<sup>3</sup> <http://www.eea.europa.eu/publications/noise-in-europe-2014>;

The Environmental Noise Directive 2002/49/EC<sup>4</sup> obliges national authorities to draw up **strategic noise maps and action plans** for major railways and large agglomerations. This allows the most problematic noise 'hot spots' to be identified and targeted. However, the Directive does not provide for binding limit values or targets, which reduces its effectiveness. In addition, measures taken are usually infrastructure-related (e.g. noise barriers along main lines and in agglomerations) and therefore costly and not cost-efficient.

Railway rolling stock, on the other hand, has been required to meet certain **noise emission limits** since 2006. This obligation, applicable only to newly built wagons, was introduced under the Railway Interoperability Directive<sup>5</sup> through a technical specification for interoperability (TSI) on noise, adopted by the Commission in 2005 and amended several times afterwards.<sup>6</sup> However, as the lifespan of freight wagons can be 40 years or more, the renewal rate of the total fleet is slow, at an average of 2-3 % per year. This is the main reason for why it will take at least until 2030 to renew the whole EU fleet and reduce the current excessive noise levels, unless old wagons are retrofitted with composite brake blocks.

In order to speed-up progress, in 2008 the Commission adopted a Communication on rail noise abatement measures addressing the existing fleet, as part of the 'greening transport' package.<sup>7</sup> It announced a legal proposal to introduce **noise-differentiated track access charges** (NDTAC) as an economic incentive for retrofitting freight wagons with composite brake blocks. The replacement of cast iron brake blocks with innovative composite brake blocks is deemed to be the most efficient way of significantly reducing the noise generated by freight wagons. Using these blocks can reduce noise levels by up to 10 dB, which means halving them in terms of human perception.

Despite a Commission proposal for the mandatory introduction of noise-differentiated track access charges, the co-legislators (the European Parliament and the Council) opted for a voluntary approach, with the Commission mandated to harmonise charging principles, under the Rail Recast Directive 2012/34/EU<sup>8</sup>. Moreover, progress on voluntary measures has not been as quick as hoped. So far only two Member States, Germany and the Netherlands, have introduced comprehensive noise-differentiated track access charge schemes.<sup>9</sup>

The costs linked with retrofitting have been hampering railway undertakings and wagon owners from achieving a faster pace of progress. In addition to the estimated € 1688 attributed on average to retrofitting each freight wagon, stakeholders have noted substantial life-cycle costs related to the usage of retrofitted wagons. To assist the sector in meeting these high costs and maintain the competitiveness of the rail sector, the Commission has proposed to co-fund a part of these costs at the Union level. This approach was formalised in Regulation (EU) No 1316/2013 establishing the Connecting Europe Facility (CEF)<sup>10</sup> which allows **20 % of co-funding for the eligible costs of retrofitting existing freight wagons with composite brake blocks**.

Even if fully applied, the measures described above cannot ensure a noticeable reduction of railway noise within 5 to 10 years. If the efforts are not stepped up, rail freight noise will remain a problem for EU citizens and their health and will not be sufficiently reduced before 2030.

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<sup>4</sup> Directive 2002/49/EC of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise, OJ L 189, 18.7.2002, p. 12.

<sup>5</sup> 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.

<sup>6</sup> TSI Noise currently in force: Commission Regulation (EU) No 1304/2014 of 26 November 2014 on the technical specification for interoperability relating to the subsystem 'rolling stock – noise' amending Decision 2008/232/EC and repealing Decision 2011/229/EU.

<sup>7</sup> COM(2008) 432 final, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0432:FIN:EN:PDF>.

<sup>8</sup> Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area (recast), OJ L 343, 14.12.2012, p. 32.

<sup>9</sup> In addition, in Germany this is supported by national financial support covering 50 % of retrofitting costs.

<sup>10</sup> Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010, OJ L 348, 20.12.2013, p. 129.

There is also a risk that excessive levels of railway noise can lead to uncoordinated unilateral actions by Member States along the most important European rail corridors. These unilateral actions could take the form of national restrictions on rail freight traffic, in particular speed restrictions and restrictions on operating at certain times, especially at night.

As freight trains operate mostly at night, such measures would likely result in **bottlenecks** which, in turn, would have adverse effects on European economies and the railway sector. Furthermore, the restrictions would doubtless lead to a **reverse modal shift from rail to road**, with a related increase in negative economic, environmental and social impacts: road transport generates significantly more external costs than railway transport, including those related to congestion, noise, CO<sub>2</sub> and other harmful emissions. EU goals and on-going initiatives such as the 4th railway package go in the opposite direction: promoting the competitiveness and attractiveness of the rail sector.

In addition, more far-reaching national unilateral measures might be introduced to protect citizens from excessive levels of rail noise. Switzerland has already adopted a national law banning all rail freight wagons that do not comply with certain noise limits from its territory as of 2020 (or with a delay until 2022 if a similar measure is adopted at the Union level).<sup>11</sup> Some Member States have considered similar actions. Besides leading to more negative external effects, such piecemeal measures at national level would be a **breach of the principles of interoperability**, as laid down in Directive 2008/57/EC.<sup>12</sup> In addition, they could **cause disruptions to the provision of cross-border rail services**, with likely distortion of competition and obstacles to trade as well as the freedom of movement of goods and provision of services.

Equally important in terms of action at EU level is the nature of rail transport in relation to noise: while the effect of rail noise can be considered as local, the same cannot be said for the source of the problem (freight wagons). Today, about **50 % of rail freight transport is international and this figure is likely to increase further**. This means that many wagons run across borders, and any attempt to combat rail noise at source needs to recognise this. The effectiveness of measures adopted at national level is necessarily limited and strengthening them further would lead to the negative consequences described above.

As indicated above, there have been a number of noise-related initiatives over past years at the Union and national levels, not necessarily linked with each other nor consistently communicated or recognised by all stakeholders. Citizens from all Member States are entitled to be better protected from noise and to be properly informed about it. Equally, as reducing the noise of rail wagons comes at a cost, it is important that railway undertakings and wagon owners have access to information about policy measures and how these will affect their business. This means, in particular, knowing what financial support they can expect and when stricter noise limits might potentially start to apply.

This Staff Working Document provides all this information and should therefore be regarded as a source of reference with a view to protecting European citizens from excessive railway noise and at the same time keeping the railway sector competitive and more acceptable in terms of public perception.

### 3. Options for the future

The Commission services have analysed current problems and future risks linked with rail noise.

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<sup>11</sup> Notification 2012/9503/CH, draft revision of the federal act on railway noise abatement, delivery of comments pursuant to Article 8(2) of Directive 98/34/EC of 22 June 1998: [http://ec.europa.eu/enterprise/tris/pisa/app/search/index.cfm?fuseaction=pisa\\_notif\\_overview&sNlang=EN&iyear=2012&inum=9503&lang=en&iBack=2](http://ec.europa.eu/enterprise/tris/pisa/app/search/index.cfm?fuseaction=pisa_notif_overview&sNlang=EN&iyear=2012&inum=9503&lang=en&iBack=2).

<sup>12</sup> For example, it would be contrary to the definitions of 'interoperability' and 'TSI' which are set out in article 2 b) and i) of the directive. According to the first definition, 'interoperability means the ability of a rail system to allow the safe and uninterrupted movement of trains', and thus creating a hindrance to circulation goes against it. As to the second definition, TSI aims to 'meet the essential requirements and ensure the interoperability of the rail system'.

Wide consultation and close cooperation with stakeholders was an important part of this process.

The results of these analyses and contacts confirmed that there is indeed a need to address rail noise and that measures currently taken at national/local level are not sufficient to reduce it.

A variety of ways to deal with the issue were examined. They are listed in the table below.

**Table 1: Initial policy options**

Policy option	Description
Status quo	This is the baseline. It assumes that no further EU action is taken beyond what is already in the legislation and that national measures to combat noise continue to exist.
Subsidy approach	This option examines financial incentives (financial support) to improve the rate of retrofitting wagons across the EU.
NDTAC approach	This approach examines the possible effects of the mandatory introduction of noise-differentiated track access charges (NDTAC) in comparison with the current situation (optional NDTAC).
TSI Noise approach	This option differs from the above market-based instruments by introducing a limitation on the level of noise produced by extending the technical specification for interoperability (TSI) Noise limit values to existing wagons, i.e. including those which were put in service before the first TSI Noise was adopted.
TEN-T / Density approach	This option considers noise limits for: <ul style="list-style-type: none"> <li>– the Trans-European Network for Transport (TEN-T network), given that this part of the rail network has the highest freight traffic intensity and carries most of the international traffic;</li> <li>– areas with the highest population density.</li> </ul>
Track maintenance approach	This option focuses on defining track standards and acoustic grinding, given the contribution of infrastructure to noise.
Holistic approach	This option assumes the introduction of mandatory noise trigger/limit values at EU level for all transport modes in the Environmental Noise Directive (END).

The options were combined into packages in order to maximise their effectiveness. The packages were analysed based on their direct economic, social and environmental impacts, using mostly quantitative methods.<sup>13</sup> This was followed by a qualitative assessment of indirect impacts, including public opposition to rail transport, gross domestic product (GDP) and employment, and overall regulatory costs.

The results of the analysis show that the holistic approach is by far the best performing, with the monetised impacts for 2015-35 in the range of € 5475 million. However, using it would require a revision of the Environmental Noise Directive, its transposition and its implementation, which means

<sup>13</sup> The following elements were included in the analysis of impacts: economic benefit of noise reduction; noise cost due to modal shift; retrofitting cost; marginal life cycle costs; public support to retrofitting (national and EU); administrative costs; CO<sub>2</sub> cost due to modal shift; and cost of track maintenance.

that significant benefits are unlikely before 2022. The holistic approach was therefore discarded. However, it should not be completely ignored, because in a wider framework of the internalisation of noise costs it is by far the most attractive long-term policy paradigm.

It seems that in the short- to medium-term the optimal policy mix as regards the noise issue could be a package that includes:

- the harmonisation of noise-charging principles;
- a recommendation on financial support to help the sector make the fleet more silent;
- development of noise-related standards of railway infrastructure;
- the gradual applicability of noise limits set by the EU technical specification for interoperability (TSI) to freight wagons that carry out international transport operations, followed by an obligation for all freight wagons circulating in the EU to be compliant with the same noise limits.

The choice of this option could make it possible to **significantly reduce the level of noise for at least half of the population affected**. The monetised impacts of this option were estimated at € 2255 million for 2015-35.

## 4. Measures reducing rail noise

This Staff Working Document focuses predominantly on the mobile component of the noise problem, i.e. the freight wagons, as well as looking in addition at the quality of infrastructure in terms of acoustic performance. A step-wise transition could help maintain the competitiveness of the railway sector in order to avoid the undesirable modal shift towards road transport, which would have a negative effect on society, the economy and the environment. Such an approach would mean that in the future all wagons meet noise limit values, which would render the whole freight fleet silent. There is now consensus that the most effective way forward on reducing railway noise by up to 50 % (8-10 dB) is to replace cast-iron brake blocks with innovative composite brake blocks. Dealing with the problem at its source is much more cost-efficient than applying other measures, in particular noise- protection walls constructed along railway tracks.

In this context among possible measures reducing rail noise the following ones merit particular attention:

### 4.1 Harmonisation of noise-charging principles

Article 31(5) of Directive 2012/34/EU establishing a single European railway area<sup>14</sup> envisages an optional introduction of noise-differentiated track access charges (NDTAC) and the Commission already adopted on 13 March 2015 an implementing Regulation (EU) 2015/429<sup>15</sup> on this which applies from 16 June 2015. This implementing measure harmonises charging principles across the Union, provides clarity for the sector and, consequently, creates incentives for the quicker retrofitting of wagons and encourages more Member States to introduce noise-related infrastructure charges. Its main principles are the following:

- The decision to introduce a noise-differentiated track access charges is left to each Member State; however, if introduced, Regulation (EU) 2015/429 applies.

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<sup>14</sup> Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area (recast), OJ L 343, 14.12.2012, p. 32.

<sup>15</sup> Commission's implementing Regulation (EU) 2015/429 setting out the modalities to be followed for the application of the charging for the cost of noise effects, OJ L 70, 14.3.2015, p. 36.

- Form of the scheme:
  - mandatory bonus, or reduction of charges, for operating more silent wagons, i.e. ones that comply with TSI Noise limit values; additional bonuses possible in specific cases.
  - voluntary malus, or surcharge, for operating noisy wagons, i.e. ones that do not comply with TSI Noise limit values;
- Bonus level: the minimum bonus value has been set at EUR 0 0035 per axle-km, with the possibility for infrastructure managers to increase it to take into account inflation, mileage run by wagons, and operating costs linked with the use of retrofitted wagons.
- Duration: until the end of 2021, with the possibility of applying malus after this date.

It can be reasonably expected that an increasing number of Member States, especially those more centrally located, will adopt such a measure in the coming years. By allowing the inclusion of higher operating costs in the calculation of the bonus level, the harmonised rules should also give wagon owners and railway undertakings the incentive to decide on quicker retrofitting and reduce the risk of financial difficulties due to the high costs of noise reduction.

#### 4.2 European and national co-funding of retrofitting

Making freight wagons more silent is costly and may negatively impact on the competitiveness of the rail sector. Therefore, public financial support that complies with State aid rules<sup>16</sup> is provided to compensate the retrofitting costs of wagons at national and Union levels. It is assumed that by providing financial support to the operators and wagon keepers during a limited period (until 2021) and up to a maximum amount, retrofitting can be sped up and thus noise emissions reduced, without the negative modal shift towards roads.

At EU level, Regulation (EU) No 1316/2013 establishing the Connecting Europe Facility (CEF) includes support actions to reduce the level of rail freight noise by co-funding the retrofitting of rolling stock with composite brake blocks. A total budget in the range of € 164-213 million has been earmarked for noise measures until 2020 and the maximum level of funding is 20 % of the eligible investment costs. The money available is distributed via annual calls for proposals.

To complement CEF funding, Member States may establish national programmes supporting the retrofitting of freight wagons with composite brake blocks. In such a case the primary focus in initial funding should be those freight wagons which circulate internationally.

To minimise the possible distortion effect that any financial support could have on competition in the internal market, they should be limited in time (until the end of 2021 at the latest) and comply with the EU's State aid rules: their financial support should be limited to 50 % of relevant investment costs.

#### 4.3 Application of TSI Noise to existing freight wagons

Currently, only new wagons have to respect noise limit values set in TSI Noise. This does not allow for a sufficiently rapid transformation of the EU fleet towards silent wagons, as demonstrated above. On the other hand, it would be disproportionate and costly to impose an obligation that all existing

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<sup>16</sup> The subsidies might be deemed to constitute State aid within the meaning of Article 107(1) of the Treaty on the Functioning of the European Union (TFEU) and would thus in principle be subject to notification to the Commission pursuant to Article 108(3) TFEU, unless such support has already been approved by the Commission as individual aid or has been granted on the basis of an approved scheme or is in compliance with the Commission Block Exemption Regulation (EC) N 651/2014. For the assessment of such aid measures the guidelines on State aid for railway undertakings apply (<http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=OJ%3AC%3A2008%3A184%3ATOC>). An alternative would be to apply the Guidelines on State aid for environmental protection and energy 2014-2020 ([http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52014XC0628\(01\)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52014XC0628(01))) and specifically the provisions for aid for undertakings going beyond Union standards or increasing environmental protection in the absence of Union standards or aid for the early adaptation to future Union standards.

noisy wagons comply with TSI Noise limits by a given date without providing an appropriate transition period and financial assistance.

Whilst the Interoperability Directive does not currently allow for the application of TSIs to rolling stock approved for operation before the entry into force of a given TSI, that is, to "existing wagons", the Recast Interoperability Directive, which forms part of the 4th Railway Package<sup>17</sup>, has established the appropriate legal basis.

The **gradual introduction of the rail noise limit values** set out in TSI Noise through three steps might be an avenue to be considered in the future. It might take a following form:

- Step 1, the supporting financial measures available for the railway sector will help it to retrofit existing freight wagons, especially the international ones, with composite brake blocks.
- Step 2, the TSI Noise limit values might apply to all international freight wagons, with the possibility, under certain conditions, for Member States to allow the circulation on their territory of international freight wagons that do not comply with these values<sup>18</sup>.
- Step 3, full applicability of TSI Noise to all existing freight wagons might be considered at certain point in time.<sup>19</sup>

The existence of financial support for retrofitting existing freight wagons coupled with these steps would enable a smooth switch from the current system to the new one.

#### 4.4 Noise-related standards of railway infrastructure

Rail noise is a result of an interaction between the wheel and the track. The costs and benefits of managing acoustic track quality through rail grinding together with other relevant track maintenance technology merit further research and testing. The Shift2Rail initiative might be regarded as an appropriate tool here. Voluntary standards and exchange of best practice could be useful in order to speed up progress, before considering further measures in the long term.

## 5. Conclusions

Rail noise is the most sensitive environmental problem for the railway sector and a serious hindrance for citizens living close to railway lines. Not dealing with it in a timely manner would have negative spill over effects beyond the sector, with a risk of restrictions within the sector and more harmful effects for many people.

Available instruments and financial means should be drawn upon as extensively as possible, in particular (a) differentiated access charges depending on the level of noise produced, with (b) national and Union financial support to be used to their maximum potential in the next few years, combined with (c) a look at noise-related standards for infrastructure. Finally, more efforts should be undertaken to apply the existing rail noise limit values set out in technical specifications for interoperability (TSI) to all existing rail freight wagons. The benefits of more silent railways are undeniable, not only for EU citizens, but also for the sector and the Single market at large.

<sup>17</sup> COM(2013)30 final – 2013/0015(COD);

<sup>18</sup> For the setting out the transitional period the following elements might be taken into consideration:

- the duration of the EU noise-differentiated track access charges scheme is 2016-21, as provided for in the Commission's implementing Regulation (EU) 2015/429 on noise charges;
- the Environmental Noise Directive requires Member States to prepare strategic noise maps no later than 30 June 2017 and subsequently every five years;
- the usual -year wagon maintenance cycle amounts to 7 years.

<sup>19</sup> It is estimated that in case of applying the describe package as many as 97 % of wagons might already be silent by 2026.

## ***Connecting Europe Facility (CEF)***

To avoid competitive disadvantages for rail transport, the transition has to be funded from outside the rail sector, at least up until noise costs are internalised in the other transport modes as well. Otherwise a shift of traffic from rail to road has to be expected and consequently the overall level of traffic noise will increase – such a reverse effect must be avoided.

The European Commission has established the CEF in order to channel substantial investments into infrastructure and thus contribute to closing gaps in European transport, energy and digital networks. One of the specific objectives of the CEF is to support actions to reduce the level of rail freight noise by co-funding the retrofitting of rolling stock. This is in line with the Commission Decision C(2011) 658, which aims to reduce obstacles to the internal market and interoperability and prevent overutilization of old-rolling stock. A total budget of € 250 million is earmarked under the current financing period until 2020 for rail projects on existing freight wagons, namely the retrofitting using composite brake blocks. The CEF rules state the maximum level of funding would be 20% of the eligible costs, which are the direct costs associated with composite brake blocks and their retrofitting costs.

The Innovation and Networks Executive Agency (INEA) assists the Commission to manage the technical and financial implementation of the CEF. The projects are selected based on a competitive process. First the proposals are evaluated by external experts. During this period, an internal evaluation by the different DGs (DG MOVE, DG Environment, and DG REGIO) of the Commission also takes place. Once a project is accepted, a grant agreement between INEA, the Commission and the beneficiary shall be signed.

While no financial funding threshold is set, the minimum number of freight wagons to be retrofitted is set at 100 freight wagons per application. To meet this recommendation, small and medium freight wagons owners are invited to submit combined applications. In order to achieve increased efficiency of the EU budget spending, the CEF budget is based on the “use-it-or-lose-it” principle. Therefore it is of high importance, that the sector will make an efficient use of this co-funding opportunity so that the funds stay for the railway sector. Furthermore, ex-ante control is foreseen prior to payment for all projects, therefore the beneficiaries must fully respect the contract obligations. If the EU wants to set an efficient financial incentive for the retrofitting of noisy wagons it must allow CEF funding in addition to the funding coming from the national funding programmes.

The first call for proposals is currently in the finalisation phase. Two wagon owners/keepers have submitted their retrofitting projects. This corresponds to € 6.2 million out of the planned budget of € 20 million for the first call. Experience from the first call for proposals will be used as an input to shape the next CEF call more favourable for retrofitting projects. It will be better to have continuous calls. Additionally the next calls should cover possibly most of the retrofitting costs to set a higher incentive for the sector to speed up the retrofitting process. Given that technology is known and limited a simplified administrative procedure is needed for the application procedure.

### ***Noise-differentiated track access charges (NDTAC)***

Track access charges are the main price signal affecting the competitiveness of services from railway undertakings as compared to those from other transport modes.

In the Recast Directive (2012/34/EU), a provision on the possible use of track access charges to account for environmental externalities was enhanced in order to develop an economic incentive to tackle rail freight noise. This type of measure is commonly referred to as Noise-Differentiated Track Access Charges (NDTAC). One of the main purposes of NDTAC should be to provide incentives for fast retrofitting through mandatory bonuses.

The introduction of NDTAC is voluntary for each Member State. However, with the Commission Implementing Regulation EU 2015/429 of the Commission, harmonised arrangements for NDTAC should be applicable to those Member States that have introduced or will in the future introduce infrastructure charging due to railway noise. Currently, NDTAC systems have been established in Germany, the Netherlands and Switzerland. Other countries such as Belgium, Italy and the Czech Republic are also examining NDTAC systems to consider their introduction in the future.

An efficient implementation of NDTAC must ensure that the administrative transaction costs are minimised. There is also a strict need to guarantee revenue neutrality for rail infrastructure managers and to avoid a negative impact on rail's competitiveness vis-à-vis the other transport modes. Concretely, this means that state funding must be made available to rail infrastructure managers, so that they can implement a reduction (bonus) of track access charges for silent (retrofitted) rolling stock without resorting to compensatory increases in the rest of their charging structure.

## Annex 2 Research and innovation projects

### *Shift<sup>2</sup>Rail*

The Joint Undertaking SHIFT<sup>2</sup>RAIL will be the first European initiative focussing on research and innovation (R&I) and market-driven solutions by accelerating the demonstration and integration of new and advanced technologies into innovative solutions for the operational railway.

Shift<sup>2</sup>Rail activities will focus on further enhancing methods for predicting overall noise performance on a system level, with a proper ranking of each contributing source (with separation of rolling stock noise from track noise during vehicle pass-by), so as to include different combinations of entire vehicles and infrastructure. This will also clarify what future targets can be possible for the TSI (Technical Specification for Interoperability) on Noise and goals that the market might require.

### *Completed UIC projects*

#### **Managing Noise from parked trains**

- Review and definition of the problem, typical noise sources on parked trains
- Survey of measurement data, procurement specifications, TSI, mitigation options
- Development of guidance, case studies & best practice

[http://www.uic.org/IMG/pdf/m111955\\_04\\_ber\\_3e\\_couv.pdf](http://www.uic.org/IMG/pdf/m111955_04_ber_3e_couv.pdf)

#### **Railway Noise Technical Measures Catalogue**

- Best practice and case studies from "real life" tests
- Stimulation of the implementation of publically available knowledge
- Demonstrate the progress that has been made for noise management (curve squeal, noise from freight marshalling yards, and noise from switches)

<http://www.shop-ETF.com/en/railway-noise-technical-measures-catalogue.html>

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### About CER

The Community of European Railway and Infrastructure Companies (CER) brings together more than 70 railway undertakings, their national associations as well as infrastructure managers and vehicle leasing companies. The membership is made up of long-established bodies, new entrants and both private and public enterprises, representing 73% of the rail network length, 80% of the rail freight business and about 96% of rail passenger operations in EU, EFTA and EU accession countries. CER represents the interests of its members towards EU policy makers and transport stakeholders, advocating rail as the backbone of a competitive and sustainable transport system in Europe. For more information, visit [www.cer.be](http://www.cer.be) or follow us via Twitter at @CER\_railways.

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