Position Paper

Transport Policy

Rail-freight transport must remain competitive

Position Paper of the Association of German Transport Companies (VDV)

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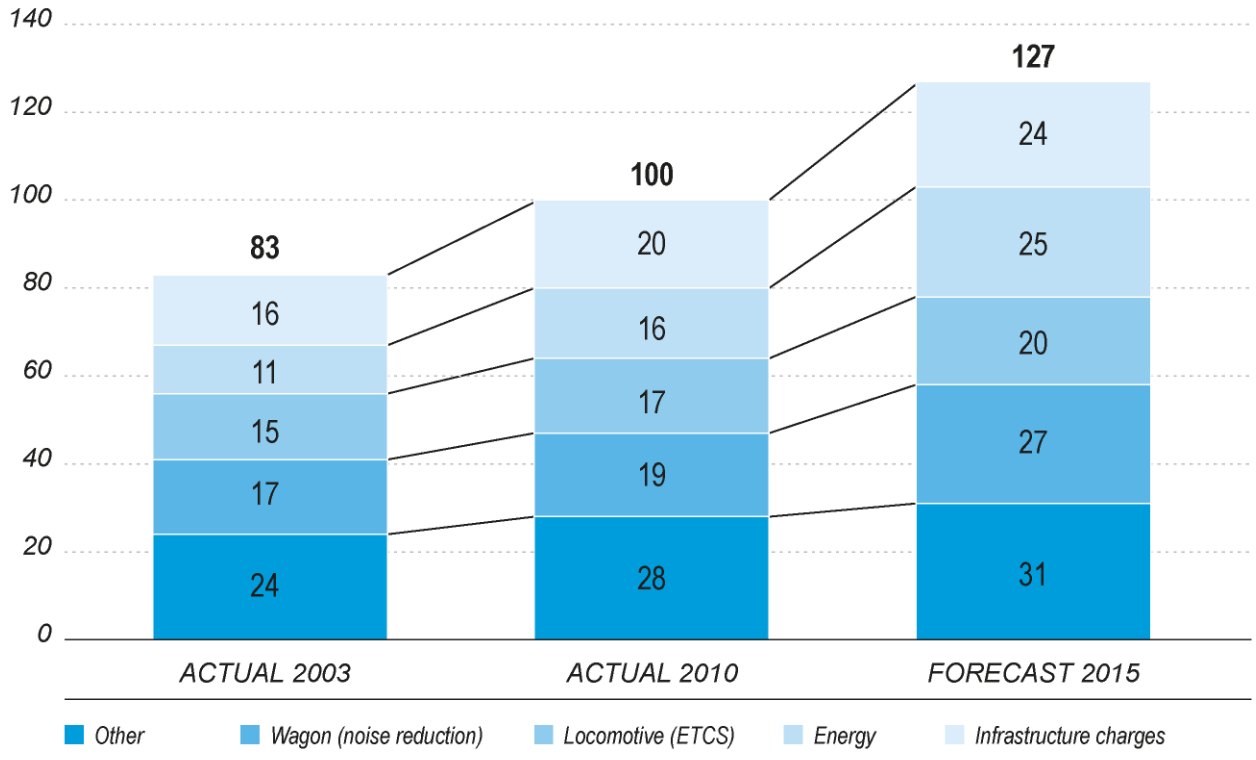
Verband Deutscher Verkehrsunternehmen (VDV)

Summary

Freight transportation will increase substantially up to and beyond the year 2025. It will only be possible to overcome the resultant transport- and environmental problems if competitive rail-freight services are able to assume as high a share as possible of this growth in traffic. At programmatic level, the political sector has endorsed this statement. In contrast to such programmatic statements, however, political reality has seen approval, initiation or active promotion of numerous developments which, in coming years, will lead to **cost increases of approximately 27%** for rail-freight services. This not only endangers the price competitiveness of rail-freight operators, but also, to a considerable degree, the politically desired increase in transport by rail.

Besides charges for infrastructure and energy, the key factor affecting such cost development are regulations anchored in the European legal framework for the creation of interoperability. And although otherwise acknowledged to be environmentally friendly and climate-compatible, rail-freight transport is also confronted with justifiable demands for a reduction in its noise-emission levels. Additional risks arise in determining the level of self-financing required in terms of infrastructure, and from the cost of energy. All these factors are fully reflected in production costs. In the short- and mid term, they have negative operational- or economic consequences and reduce the competitiveness of rail-freight services in the transport market.

Cost components per train-km in intermodal transport (2010 = 100)



Rail-freight carriers expect the competent political bodies

- **to fully utilise their scope of influence as owners of infrastructure companies,**
- **to guarantee adequate funding of rail infrastructure,**
- **to ensure that European directives on interoperability are structured and implemented in a market-oriented manner**

In this way, they will contribute to the creation of secure and sustainable frame conditions. Together with entrepreneurial commitment on the part of the operators, these are the essential preconditions if rail-freight services are to meet expectations in terms of transport- and environmental policy.

1. Background

According to all the available information, rail-freight traffic will continue to grow substantially in the coming years as a result of increasing economic ties across the EU domestic market and on a global scale. Current forecasts indicate that, by the year 2025, an increase in transport performance of approximately 70% may be assumed (in relation to transport performance in 2004).

If structural changes are not implemented in terms of the modal split, the expected growth in freight traffic will result in considerable problems as regards transport- and environmental policy.

- Increases in freight haulage which have been forecast for the future - particularly by road – impede any sustainable reduction in negative climate impact caused by such services and endanger adherence to the climate-protection targets set by the Federal German Government.
- The challenges facing energy policy do not permit any continuation of current market structures in the freight-transport sector.
- Road haulage in particular has reached barely surmountable capacity limits. Within the framework of the current mobility model, access to industrial- and commercial locations can no longer be guaranteed. This would result in far-reaching consequences for the continuing development of the Economy and Society.

Any sustainable mobility concept which takes account both of environmental and of social or economic demands must therefore ensure that a key role is performed by climate-friendly and energy-efficient rail-freight services. If the set objective - economically efficient, socially- and environmentally compatible freight transport – is to be achieved, rail-freight services will have to assume as large a share as possible of future freight-traffic growth. In addition to rapid expansion of the essential infrastructural capacity, this will require decisive political action to ensure that enduring competitiveness is maintained.

In contrast to its programmatic statement, the political sector has approved, initiated or actively promoted numerous developments which, in coming years, will lead to major

cost increases for rail-freight operators and negatively impact their price competitiveness.

Besides charges for infrastructure and energy, the key factor affecting such cost development are the regulations anchored in the European legal framework for the creation of interoperability. And although otherwise acknowledged to be environmentally friendly and climate- compatible, rail-freight transport is confronted with justifiable demands for a reduction in noise- emission levels. Additional risks arise in determining the level of self financing required in terms of infrastructure, and from the energy charges. All these factors have a direct negative impact on production costs. In the short- and medium term, they will not generate any positive operational or economic consequences and thus reduce the competitiveness of rail-freight services on the transport markets.

Over the past years, rail-freight operators have already undertaken considerable and ongoing efforts to defend or even expand their market position despite the exceptional cost burden. Following a rail accident in Viareggio involving the transport of hazardous cargo, for example, the operators entered a commitment to further increase safety levels when maintaining wheel-sets for freight wagons.

Cost increases based on non-market related decisions, however, have reached an extent which substantially impedes the competitiveness of rail-freight operators in relation to other transport modes. Under these circumstances, the growth in rail-freight traffic desired in terms of transport- and environmental policy cannot be realized. On the contrary: For the near future, considerable risks are apparent which will impact the price-competitiveness of the rail-freight operators. Decisive political action is essential in order to ensure positive future development of rail-freight services and thus avert a negative impact on the Economy and Society.

The following sections will outline already identifiable risks for the price competitiveness of rail-freight operators. These companies anticipate the highest growth rates to arise in intermodal rail-road transportation. At a reduced level of competitiveness, this segment in particular will remain a source of major risk to the growth of overall rail-freight transport.

2. Detailed description of risks affecting the price competitiveness of rail-freight transport

2.1 Infrastructure charges

Background

In accordance with German Basic Law, the railways in federal ownership, including the infrastructure operator, are to be managed as business enterprises subject to private law. European and national legislation require rail-infrastructure companies to themselves cover the costs they incur, while taking any available public funding into account.

In Germany, scheduling, operational management and maintenance of the infrastructure are fully financed from user charges.

In addition, these user charges contribute substantially to the level of own funds - approximately 20% - which an operator must re-invest into financing of German rail infrastructure. The remaining 80% of investment in such infrastructure is financed by the German state from federal budget funds. In relation to overall operating costs and investment, however, the percentage of financing derived from the user charges currently totals 80%.

Together with productivity and profit targets, the Federal Government´s funding contribution thus exerts substantial impact on the level of the user charges.

In turn, the amount and/or development of these user charges is of key significance for the competitiveness of rail-freight transport in Germany.

- Taken as an average for all rail-transport modes, charges for the use of the federal track system in the period from 2003 to 2010 rose by an annual 2.28%, or by 17% in total.

- As regards rail-freight traffic alone, the comparative figure for the period 2003 to 2010, based on data provided by DB Netz AG, amounted to just under 1%, or to a total 7.2% for the entire period. In its annual report for 2010, the Federal Network Agency (BundesNetzAgentur) reported an indexed price increase for rail-freight traffic in the period 2002 to 2010 of 33%. From the perspective of DB Netz AG, this value does not reflect the actual train-path price increase over the specified period, and instead infers a relative price increase derived from various indices and key figures not directly related to the train-path price; as such, this value may be ignored as regards the issue under consideration.

- Especially when making heavy use of high-demand lines, individual operators may face significantly higher price increases, however. This particularly applies to intermodal rail-road transport, which is not only predominantly conducted along the heavily used train paths, but must also satisfy the high quality demands set by the freight customers. Additional costs for use of the rail infrastructure must also be included; although not a major factor when the rail paths alone are considered, these costs must nevertheless be taken into full account in the price calculation of the rail-freight operators. This particularly applies to the so-called cancellation charges and additional expenses (in this case only in relation to the rail-path prices) for services re-routed as a result of construction work.

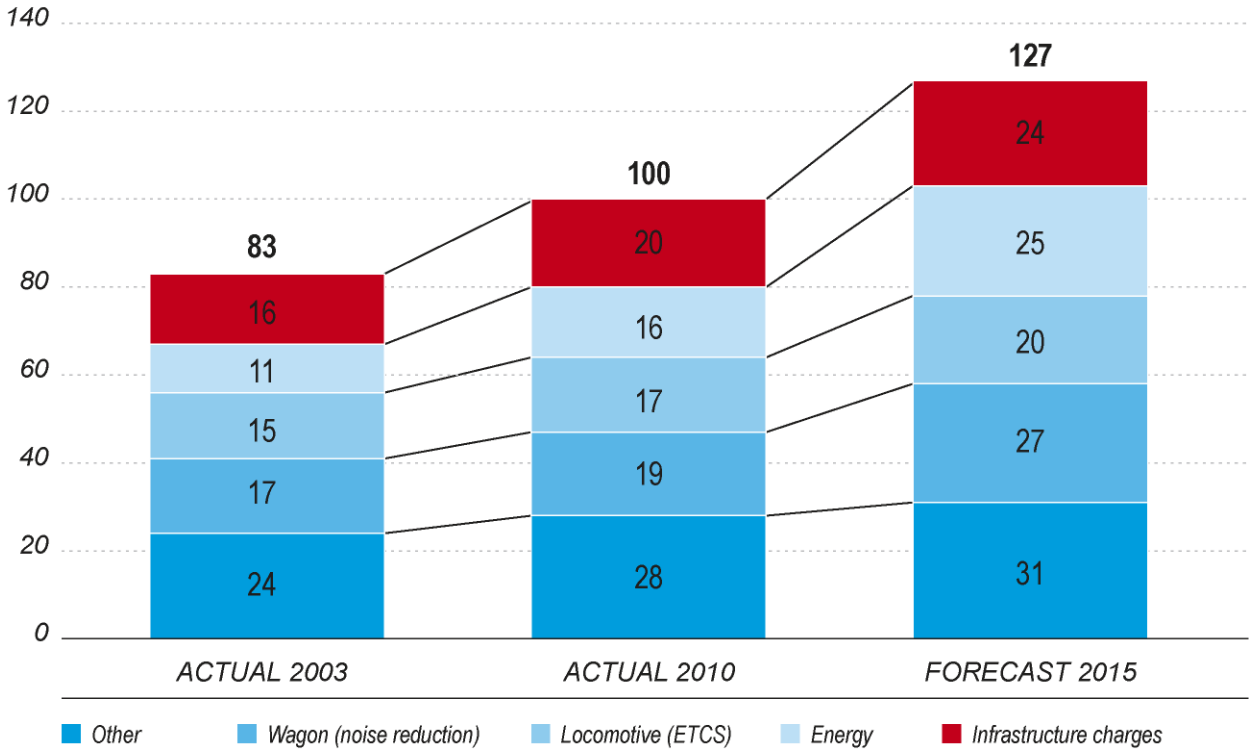
- In one specific case, the infrastructure-usage charges per train kilometre to be paid by a company active in this segment with a train system devoted to intermodal rail-road transport actually rose by approx. 27% in the period from 2003 to 2010.

In the future, increasing infrastructure costs will impose a considerable burden on operators in the rail-freight markets. They diminish the competitive position of operators and may consequently bring about a loss in market share if the infrastructure charges which must be paid by such users are not increased to the same extent in the case of other transport modes.

Costs

On average, charges for use of railway infrastructure by rail-freight operators currently amount to approx. 20% of the total production costs. Should future price development continue at the current level, a further 20% increase in network-access charges for the representative intermodal train may be anticipated by 2015. This corresponds to an additional increase in total production costs of 4%.

Cost components per train-km in intermodal transport (2010 = 100)



Need for action

Within the framework of its financial responsibility and role as regulator and owner of infrastructure, the Federal Government – together with the regional states and local authorities – exerts influence on the level of infrastructure charging.

Particularly when determining the scale of contribution towards financing the existing rail network and/or construction or expansion investments, the state agencies indirectly impact the level of the infrastructure charges.

They are thus decisive in determining the competitiveness of rail-freight transport in relation to other transport modes.

The rail-freight operators expect the political sector to exploit its scope for action as a means of safeguarding the competitiveness of rail-freight transport.

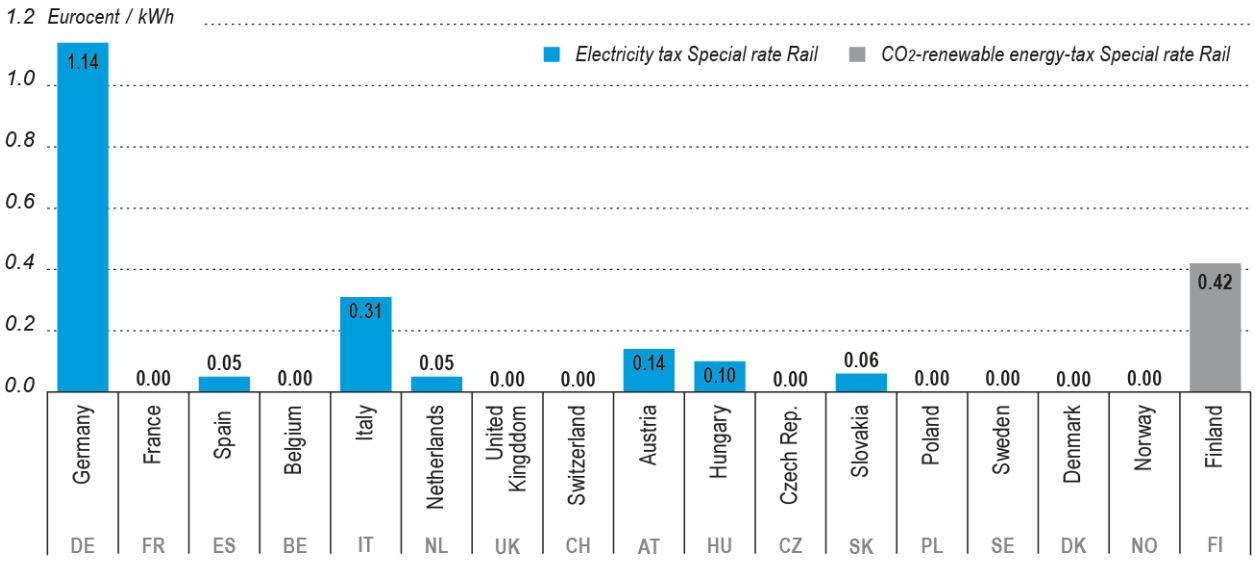
2.2 Energy

Background

Even greater increases have affected the costs for traction current in recent years. Between 2003 and 2010, they rose by more than 40%. As regards the representative intermodal train, their share of the production costs in this period increased from approx. 13% to a current level of 16%.

The general development of energy prices and the pricing policy of DB Energie and its suppliers have resulted in risks for future development of the costs for electric power.

Level of electricity taxation for rail operators compared internationally



Source: INFRAS

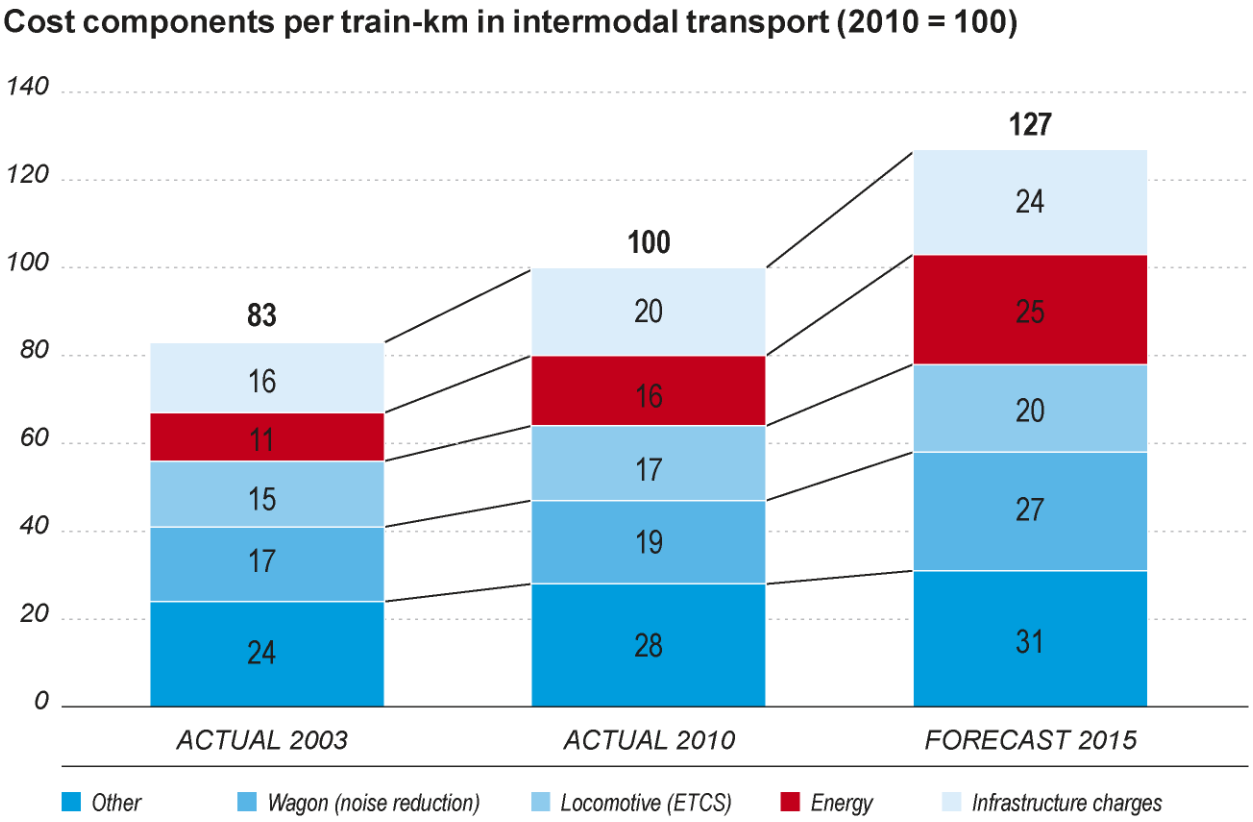
In addition, further and considerable financial burden will result from the European Emissions Trading Scheme; electrified rail is the only transport mode to be completely affected by this scheme. Neither road- nor waterborne transport is subject to emissions trading. As of 2013, tradable CO2 certificates will be auctioned off in full. The subsequent costs result in a further increase in the price for traction current, and this affects almost 90% of rail-freight performance in the German net.

At the same time, the electricity-tax burden for rail-freight transport in Germany is high in comparison to other European states. At a rate of 1.14 eurocent per kilowatt-hour, traction current in Germany is taxed at a significantly higher level than in other European states. In Denmark, France, Poland, the Czech Republic and Switzerland, rail-freight carriers pay no tax on traction-current consumption. Considerably lower tax rates apply in other European countries.

Costs

Full auctioning-off of emission certificates in accordance with the revised version of Emissions-Trading Directive 2003/87EU will result in a sharp increase in energy costs for electrified rail-freight services as of 2013. Based on this factor alone, an additional financial burden totalling 90 million euro per year will presumably affect rail-freight transport in Germany. In relation to the representative intermodal train, energy prices will subsequently rise by more than 20%.

Moreover, should price increases continue at the current rate in the future, energy costs will subsequently rise by approx. 35%, and by a total 56% by 2015. This corresponds to a 9% increase of the total production costs for the representative intermodal train.



Need for action

According to an investigation by the Centre for European Economic Research (ZEW), the one-sided cost burden facing electrified rail-freight services as a result of emissions trading will alone cause a shift in the modal split of 0.65 percentage points to the disadvantage of the rail sector. This one-sided drawback for rail-freight transport as a consequence of emissions trading in the rail sector on the basis of European law must be counterbalanced by full use of the national scope for action in terms of electricity taxation.

From the point of view of VDV, electricity taxation of rail-freight transport in Germany on the consumption of traction current and traction diesel must at least be aligned with tax rates in neighbouring European countries. By granting rail-freight services a total exemption from these taxes, the German political sector could relieve this extreme multiple burden on the rail-freight operators and strengthen their competitive position. Correction to the energy-policy frame conditions is essential for the rail sector if sensible optimization of the overall transport system is to be achieved in terms of transport-,

economic- and climate policy. Proceeds from emissions trading should be used to strengthen climate-friendly rail-transport services.

In addition, as the owner of DB AG, the Federal Government – in accordance with institutional and especially with economic frame conditions – can exert influence on the imputed profit expectations of DB Energie GmbH and this company´s allocation of profits. From the point of view of the rail-freight operators, this political scope for action must be fully exploited in terms of market-compatible energy pricing.

2.3 Harmonisation of train-control systems in the European rail network

Background

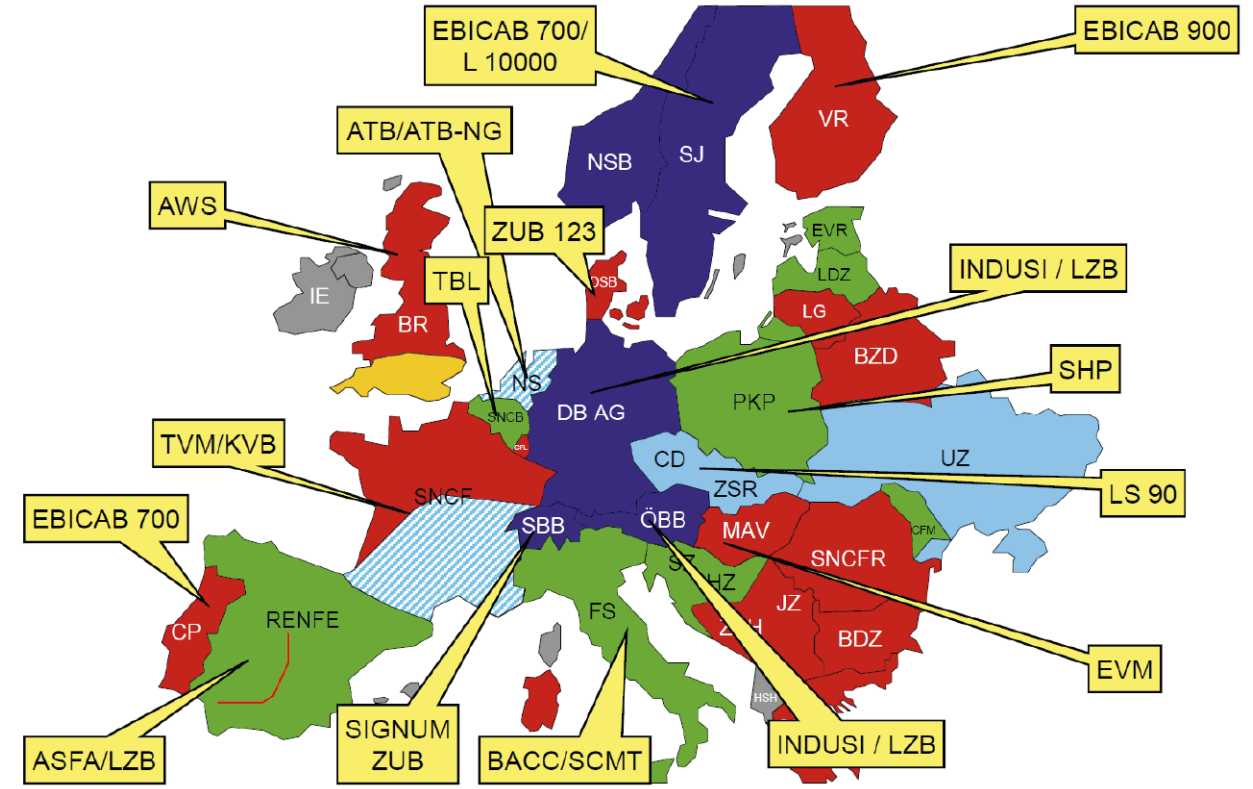
In addition to six power systems, approx. 20 different train-control systems are utilised within the European rail network. On cross-border operations, therefore, locomotives fitted with several train-control systems are required, or locomotives must be exchanged at system borders. On passing the so-called directives on interoperability, the European decision-making authorities created the legal preconditions for issues such as the harmonisation of train-control systems. Particular emphasis is placed on equipping the trans-European rail network with the European ETCS train-control system. In the case of new lines or extensions, the integration of ETCS technology is mandatory. In addition, certain important traffic corridors used by cross-border rail-freight services are, in some cases, to be equipped with ETCS by 2015, others by 2020.

Although ETCS technology is being installed parallel to the existing train-control system along German rail-freight corridors within the conventional network, it is assumed that, in the longer term, such legacy systems will be discontinued. As regards the projects VDE 8.1 and 8.2 (Eberswalde – Erfurt, Erfurt – Leipzig), as well as the planned high-speed line from Wendlingen to Ulm, ETCS will serve as the exclusive train-control system.

The Betuweroute and Lötschbergstrecke lines serve as examples of significant track sections used by international rail-freight traffic (Corridor Rotterdam – Genoa) which

have been equipped with ETCS (although with varying, non-compatible ETCS levels). On completion of the new Alpine Rail Transversal through the Gotthard in 2017, ETCS will become mandatory for north-south rail traffic through Switzerland. As of the timetable change 2012/2013, ETCS operations will already commence on significant lines used by rail-freight services in Austria, these including the Kufstein – Brenner line.

Traction-current and train-control systems in Europe



Source: DB AG

Ongoing integration of ETCS into the infrastructure is a clear indication that, in addition to the current train-control systems, it is also imperative for operators to retrofit with ETCS those of their vehicles which are assigned to international rail-freight services on lines equipped exclusively with ETCS technology. As regards new locomotives commissioned since 1. January 2012, or entering operational service after 1. January 2015, the integration of ETCS is mandatory. Exemption applies only in the case of

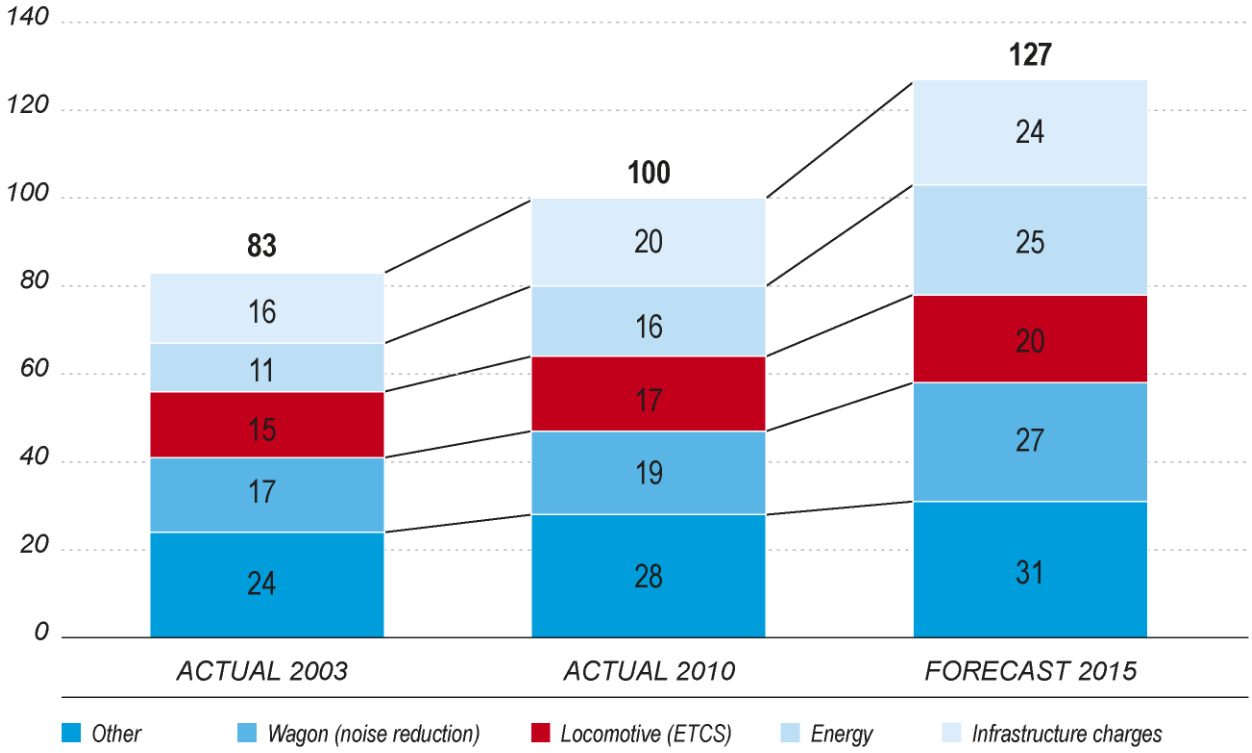
shunting locomotives, or vehicles assigned exclusively to national- or cross-border regional services. Thus older rolling stock must also be retrofitted with ETCS if in service on lines equipped exclusively with ETCS.

The cost of retrofitting locomotives with ETCS is considerable. In contrast, however, no advantages in the short- or mid-term are to be expected. The benefit for operators from the installation of ETCS will only become apparent in the distant future, i.e. when the entire trans-European network has been equipped accordingly.

Costs

Whereas federally-owned infrastructure operators who integrate ETCS into their infrastructure draw benefit, at least in principle, from state responsibility under Basic Law to assure the provision of rail infrastructure, the cost of retrofitting rolling stock with ETCS components must be assumed by the respective vehicle owner.

Cost components per train-km in intermodal transport (2010 = 100)



At the same time, however, locomotives for Austria and additional locomotives for Switzerland (Gotthard) will have to be re-equipped with ETCS, together with the majority of German main-line locomotives; as of 2020, it will become compulsory to replace LZB (continuous automatic train running control) in Germany. The costs of retrofitting a main-line locomotive with ETCS currently amount to 400,000 euro. These are augmented by the one-off costs arising for a series, which total up to approx. 5 million euro.

In the case of leasing vehicles, the additional costs of installing ETCS equipment amounts to 40,000 euro per year and locomotive. This corresponds to a cost increase for the provision of such locomotives of approx. 18%.

In relation to the representative intermodal train, total production costs will rise by approx. 3% as a result of equipping the locomotive with ETCS.

Need for action

The political sector has not yet indicated whether it is prepared to actually fulfill the demands being raised by VDV and other agencies with regard to the financing of ETCS integration into rail vehicles. In view of the enormous cost burden involved, the rail operators remain convinced of the essential need to fund the re-equipping of vehicles to an amount of 200 million euro within the framework of an innovation programme for cross-border rail-freight transport.

Moreover, both the political sector and the rail industry have an obligation to make full use of the instruments available to them as a means of significantly reducing the costs of equipping vehicles. In specific terms, VDV urges implementation of the following initial steps, as yet far from realization:

- Standardisation of the soft- and hardware
- Modularisation of the system
- Standardisation of the interfaces
- Integration of standard industrial components
- Simplification of the approval- and commissioning processes
- Simplification of tests and evidence of interoperability

2.4 Noise reduction

Background

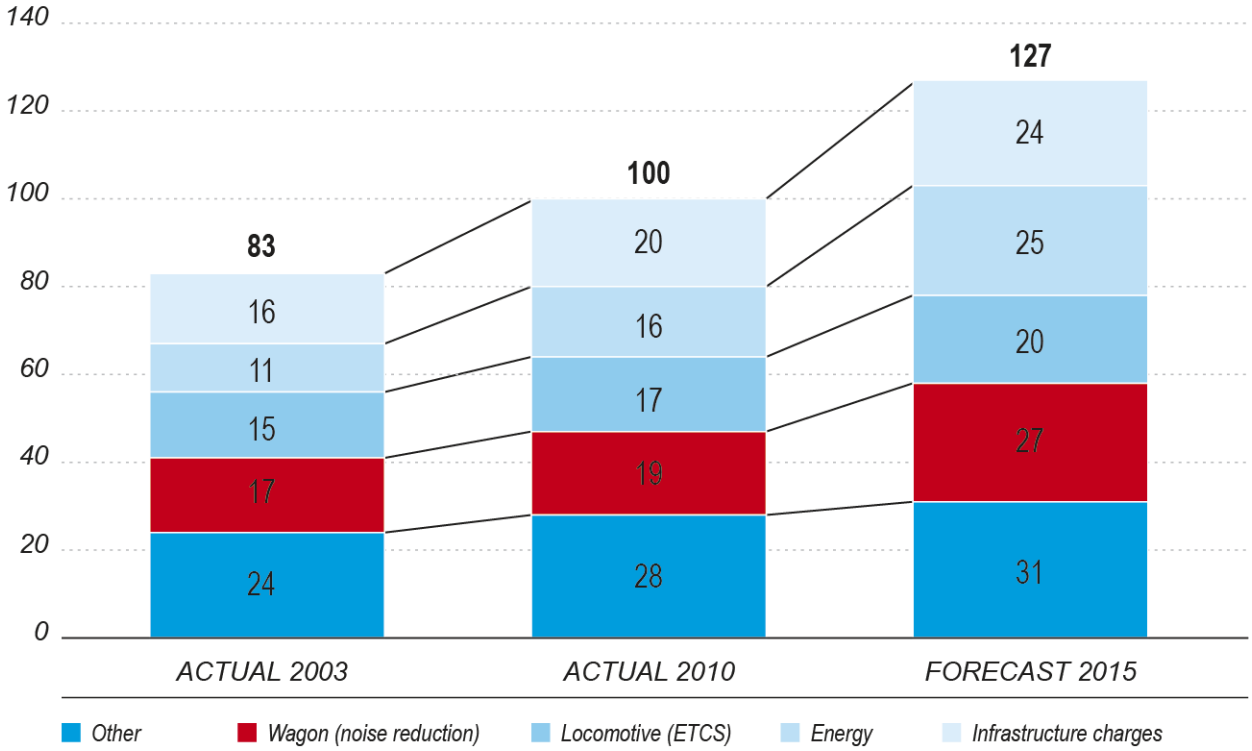
The reduction of noise levels due to rail-freight services is one of the key concerns both of transport policy and the rail sector. With this target in mind, the replacement of cast-iron brake blocks with modern composite blocks is considered to be by far the most effective and efficient approach to significantly reduce noise emission from rail-transport services - and this throughout the network.

Due to existing operational and technical regulations, new freight wagons are already being equipped with noise-suppressing braking systems (composite K-block). In order to exploit the noise-suppressing potential offered by modern composite brake blocks, the existing fleet of freight wagons – approx. 150,000 wagons in Germany and approx. 600,000 in Europe – will also have to be converted as soon as possible.

Costs

As a replacement for conventional cast-iron brake blocks, various composite blocks are available for the retrofitting of freight wagons to enable more effective noise-suppression. Due to the extensive work on the braking system involved, retrofitting only the existing fleet with so-called K-blocks is already extremely complex and time-consuming. As a consequence, retrofitting of only the approx. 150,000 wagons currently in service in Germany could result in costs of up to a billion euro. This amount increases on inclusion of additional operating costs; based on an annual kilometric performance of 120,000 km, these could total approx. 2,700 euro per wagon and year.

Cost components per train-km in intermodal transport (2010 = 100)



The rail sector therefore favours the use of so-called LL-blocks when retrofitting the vehicle fleet. Such LL-blocks reproduce the braking performance of cast-iron brake blocks and are therefore fitted in exchange for conventional blocks. Costs of between 1,250 and 2,030 euro should be estimated per wagon refitted with LL-blocks. In relation to the entire fleet, this corresponds to an amount of between 200 and 300 million euro. Once again, additional costs on the basis of an annual kilometric performance of 120,000 km and amounting up to 2,200 euro per wagon and year should be estimated. From the point of view of the rail sector, re-approval of either the braking system or the wagon is unnecessary. Several types of LL-block are currently being developed. General homologation for their use in constant operation has not yet been granted, however.

In relation to the representative intermodal train with an annual kilometric performance of 120,000 km, the noise-suppression measures described above result in a cost increase of approx. 40% for the provision and operation of freight wagons. This equates to a rise in train-related production costs of approx. 8%.

Need for action

Due to the particular suitability of LL-blocks for the retrofitting of existing rail-freight wagon fleets, their rapid development into series production and market-maturity including homologation must be of the utmost priority. Within the framework of the international project Europe Team, the rail operators are contributing to the achievement of this target

Above all, the political sector must ensure that, on general homologation of LL-blocks, they immediately be fitted instead of cast-iron brake blocks and without the need for homologation of the converted braking systems and/or wagon by the regulatory authority.

Even assuming that LL-block technology reaches market-maturity and homologation, the rail sector would be under too great an economic burden if obliged to assume full financial responsibility for retrofitting of the existing fleet. Should the expected drop in transport volume of just under 5% occur, the market position of the rail-freight operators would deteriorate significantly. The rail sector therefore proposes the introduction of a publicly-financed wagon bonus system based on levels of noise-emission and kilometric performance over a maximum 8-year period. Under this concept, a wagon owner would receive a kilometre-dependent bonus for each wagon retrofitted with low-noise braking technology, at most to the amount of expenditure required for the conversion (one-off costs, additional operating costs). With the introduction of the proposed system, an incentive would be given to swiftly re-equip those freight wagons with a high kilometric performance. This would lead to a rapid and clearly perceivable reduction in noise. The noise-abatement programme already in existence and initiated by the Federal Government to promote noise-suppression measures for freight wagons, could, if opened up, enable a predominant share of the conversion work to be financed in a budget-neutral manner. Noise abatement could proceed more rapidly with a considerable drop in costs for noise protection with increasing effectiveness.

2.5 Telematic applications for rail-freight transport

Background

TAF TSI ("Technical Specifications for Interoperability for Tele Applications for Freight") is a technical specification for interoperability (TSI) drawn up on the basis of Directive 2001/16/EU for interoperability within the conventional trans-European rail system. This EU directive obliges rail operators to apply IT-based data-reporting and data-exchange procedures. In great detail, the directive stipulates the content and form of any exchange of messages or data between the actors in the rail-freight transport sector. It specifies which databases are to be created and which information is to be stored in which database. In addition, it defines the access rights to this information. Within the framework of EU rail policy, the overall modernisation of information management targeted by these measures - together with the issues of market opening and financing of investment in infrastructure - is intended to contribute to an improvement in quality of rail-freight transport and thus to a "revitalisation" of such services in the EU.

Technical implementation of TAF TSI is the task of the rail sector. The Strategic European Development Plan (SEDP) compiled by specialist associations in this sector and approved by the European Commission describes the fundamental technical and organisational features of the IT which has been selected to enable the exchange of data and messages in conformity with TAF TSI.

Implementation of the SEDP was originally to have been effected by 2014. In view of the numerous open and unresolved questions, however, adherence to the original schedule is unlikely. As yet, no reliable schedule has been drawn up for the implementation of TAF TSI.

Although the creation of an information network and the standardisation of co-operation within the rail sector may certainly open up economic opportunities for this sector, the risks posed by TAF TSI are considerable. In addition to innovation management and data security, these risks particularly affect the cost side of implementing TAF TSI. One of the main reasons for this lies in the extreme complexity of the terms of this regulation.

It remains uncertain whether the costs arising from the realisation of TAF TSI can be balanced by the economic benefits subsequently derived. Any investment made by rail operators in TAF TSI will have to be absorbed by their pricing (charges for usage of infrastructure, transport charges): This will further diminish the competitive position of rail-freight services against other transport modes.

Costs

Investment in TAF TSI will not be possible until the timeframe and extent of the required implementation are more clearly definable. Given the lack of reliable data, the investment volumes in connection with TAF TSI cannot, as yet, be calculated with the level of accuracy required for enterprise-related business plans. Purely for investment in the implementation of TAF TSI, the SEDP has estimated total costs for the whole of Europe of approx. 1.5 billion euro. As this estimate does not take the specific cost structures of small- and medium-sized companies into account – in such cases the IT-based fixed costs account for a larger share of total costs – the estimated amount must be regarded as a minimum threshold of the actual costs involved.

Review of total costs to be met by the rail sector will require consideration of the following areas.

- Implementation at a respective company (adaptation, investment)
- Implementation of “common components“ (development, operations)
- Operation of the databases
- Operation of the data exchange

Need for action

As explained above, the information and data regimes targeted by TAF TSI open up significant economic opportunities for rail-freight transport. Problems mainly arise on account of the extremely complex regulatory terms of the directive

For this reason, VDV would welcome and urges revision of TAF TSI as a means of considerably reducing its complex content. It will be necessary to scale down standards and focus on messages which are actually applicable in operational practice.This

means that exclusive consideration should be given to the exchange processes between infrastructure operators and rail-freight operators. It remains optional as to whether further processes and data should be integrated into a revised TAF TSI at some future date.

On availability of a reliable basis for the calculation of the cost investment required to implement TAF TSI, both in general and at company level, the means of creating a funding programme at European level must be examined.

3. Conclusion

In terms only of the categories presented in this paper, the increase in costs for the rail-freight sector between 2003 and 2010 amounted to almost 22%.

When the additional cost risks defined in this document begin to impact the outlined cost categories alone, the costs of operating rail-freight services will rise by a further 27% between 2010 and 2015.

In a market as highly sensitive to prices as the rail-freight sector, faced as it is with a competitive environment, particularly as regards road transport, such a cost explosion will undoubtedly lead to a shift of transport flows away from the railways and back onto other transport modes.

Access for the rail sector into new market segments would continue to be massively impeded.

The rail-freight operators are undertaking great efforts to counterbalance these risks and continue the positive developments of recent years. On both federal- and regional-state level, they are calling on the political sector to add its contribution by way of appropriate structuring of the regulatory framework.