DB Mobility Networks Logistics

Competition Report
2013

Regulatory requirements have been transposed transparently and correctly

**Dr Rüdiger Grube,
Chairman of the Board of Management and CEO of Deutsche Bahn AG**

More traffic on rail and full liberalisation of the railway markets were two central objectives of the rail reform. 20 years later, today's figures show that both these targets have been achieved in Germany:

Since 1994, traffic performance has increased by more than 55 per cent for the rail freight sector and by more than 35 per cent for rail passenger transport. In an intermodal comparison for 2012, the rail mode actually achieved the highest figure since the start of the rail reform.

Growth on rail cannot work without liberalisation of the rail markets. In that respect, Germany has evolved into the European pioneer. This is evident from the continuous positive development of the competitors of DB: in 2012, DB Bahn Regional's competitor railways succeeded in raising their market share to 25 per cent – a trend attributable not least to competitive tendering. In the rail freight sector, the market share of non-DB railways actually increased to 28.6 per cent. It is apparent in practice that access to rail infrastructure in Germany works effectively and without discrimination.

However, despite all the positive news, this year's Competition Report clearly reflects the difficult economic environment for DB in 2012. The economic downturn resulting from the euro crisis, for instance, led to a decrease in the volume of goods carried on rail. The importance of the integrated Group structure for Deutsche Bahn's ability to cope with critical situations has again been proved in recent months: especially in times of volatile markets and moderate growth forecasts, the holistic expertise of the integrated DB Group is essential for ensuring high standards of performance and quality for our customers. At the same time, the occasionally highly controversial public debate about the transparency of internal relations between the different DB companies shows that there are misunderstandings and prejudices which still have to be cleared up. This Competition Report plays an important part in doing so.

We were very pleased that the European Court of Justice issued a leading decision on 28 February 2013 confirming the correct transposition of European regulatory requirements and the legal certainty of the holding model. This is simultaneously a landmark decision for the national und European plans for the future development of the regulatory legal framework. This will ultimately set the course for the success of the railways over the next 20 years. The rail/wheel mode belongs together and – if it is to be successful – has to be managed as an integrated and non-discriminatory system.

Sincerely,

Dr Rüdiger Grube

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Finance

Contents

Market & Competition While rail passenger transport in Germany achieved the best results in 2012 since the rail reform, rail freight operators suffered from poor demand for transport services.

Successful rail passenger transport

Although demand in the German passenger transport market declined in 2012, rail succeeded in raising its share to a record figure in an intermodal comparison.

Demand in the German passenger transport market declined by just over one per cent in 2012. This was due first and foremost to the decrease in private motorised traffic, which accounts for a market share of approximately 84 per cent and thus has a dominant effect on the passenger transport market. In terms of passenger kilometres (pkm), traffic performance was down approximately 1.5 per cent year-on-year. Public road transport and domestic German aviation also suffered significant decreases. Rail was the only transport mode which substantially increased its traffic performance, raising its share of the modal split to the highest figure since 1994, the year of the rail reform.

Aviation suffered from rising cost pressure and strikes

The downturn in passenger figures for the domestic German aviation market, which had been evident since the end of 2011, continued in 2012, with traffic performance down approximately three per cent year-on-year. In view of the low market volume of aviation as a whole, however, its market share of one per cent remained stable compared with the preceding year. Higher fuel prices and additional burdens resulting from air traffic tax and emission certificates caused airlines to reduce their services on some routes, which in turn led to lower demand. The subdued economic environment in the euro area also curbed demand for domestic German flights, whilst special incidents such as strikes by ground staff and cabin crews had a further adverse effect on performance.

Private motorised traffic loses market shares

Despite the good economic situation in 2012, private motorised traffic was unable to repeat its strong performance of the previous year and traffic performance decreased by approximately 1.5 per cent. As a result, its market share was down for the first time in four years, reaching a figure of 83.8 per cent. This can be attributed to special circumstances such as the severe winter compared with the preceding year and an increase of 3.6 per cent in fuel prices in real terms.

Public road transport suffered an even worse downturn than the previous year. It was unable to make up for the negative effects resulting from the declining numbers of schoolchildren and trainees. Traffic performance declined by a total of 1.5 per cent, although the market share of public road transport remained unchanged at 7.1 per cent.

This did not have any negative effect on competition in the regional bus market, where tenders reached a record level of 45 million revenue-earning kilometres (r-e km). The parameter revenue-earning kilometres refers to traffic performance with passengers and does not include no-load runs. At 40 million r-e km, total contract award volume fell short of the previous year's level of 41 million r-e km (the other contract award procedures will not be concluded until 2013). In this market segment, DB Bahn Regional Bus is faced with fierce competition from numerous local private transport companies as well as national and international players such as Abellio and Veolia Transdev. In 2012, most of the contracts were awarded to private medium-sized transport companies and DB Bahn Regional Bus won only 22 per cent of the transports up for tender.

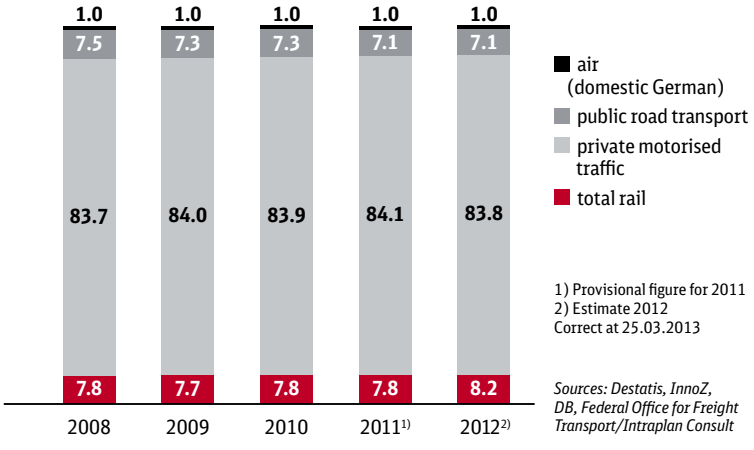
Record traffic performance by railways

In an intermodal comparison, rail passenger transport in Germany succeeded in expanding its position. In contrast to all other transport modes, traffic performance in terms of passenger kilometres was up by

In 2012, aviation suffered from strikes, high fuel prices and air traffic tax. Rail was the only transport mode which increased its traffic performance.

approximately four per cent. In addition to the supportive effect of economic stimulus from the labour market, higher real income and the continuing increase in fuel prices, the good performance was also the outcome of various one-off effects: the absence of major construction work on the rail network and consequent improvements in infrastructure and timetables, as well as strikes in the aviation sector all had a positive effect on rail passenger figures. While long-distance rail passenger transport increased by a good five per cent, regional rail passenger transport (by DB companies including competitor railways) rose by approximately three per cent. Altogether, rail increased its share of the modal split to 8.2 per cent, reaching the highest figure since the rail reform that was implemented in the year 1994 (6.7 per cent).

Only rail won market shares (basis: passenger-kilometres, in per cent)



1) Provisional figure for 2011
2) Estimate 2012
Correct at 25.03.2013

Sources: Destatis, InnoZ, DB, Federal Office for Freight Transport/Intraplan Consult

Ongoing strong competition in the regional market

The market share of competitor railways in the regional rail market has increased steadily since the start of the liberalisation process. In 2012, they handled 25 per cent of the total transport volume, or 161 million train-kilometres, compared with 154 million train-km in 2011. Competitor railways were successful in 48 per cent of all contract award procedures (compared with 28 per cent in 2011), winning 20 contracts with a total annual contract volume of approximately 70 million train-km. Nine networks changed hands, and DB Bahn Regional had to relinquish eight of these. In total, new transport contracts were thus awarded to eleven different railway undertakings – including DB – in 2012. Companies which are backed by foreign state-owned railways were particularly successful: Abellio, a subsidiariy of the Dutch state railways Nederlandse Spoorwegen (NS), for example, won the bid for "Elektronetz Saale-Thüringen-Südharz" with an annual volume of 9.2 million train-km and a contract term of 15 years. Regentalbahn, a subsidiary of Netinera – which in turn belongs to the Italian state-owned railway Ferrovie dello Stato (FS) – won part of the "Dieselnetz Südwest", with an annual volume of approximately 6.7 million train-km and a contract term of 22.5 years. Companies owned by local authorities were also successful. WestfalenBahn in Lower Saxony, for example, won the contract for Emsland und Mittelland Express Lines with an annual volume of 5.4 million train-km. Abellio owns a 25 per cent share in WestfalenBahn, so that the new contract also promotes Abellio's growth strategy.

Further expansions are also expected over the next few years, especially for Keolis Deutschland and Netinera Deutschland. SNCF, the majority shareholder in Keolis Deutschland, has stated that Keolis' market share is "insufficient" and consequently in future tenders, the existing networks in the Ruhr area shall serve as a bridgehead for raising the market share of Keolis. The new management of Netinera Deutschland is also endeavouring to continue its expansion in the German regional rail market: over the long-term, it aims to achieve a market share of 20 per cent and hold second place in the German regional rail market.

On the whole, the number of competitors who bid for transport contracts increased again in 2012 and this trend is sure to continue in future. One example is the contract award procedure for the Ring section of the Berlin rapid transit network. According to Berlin-Brandenburg (VBB) transport association, several bidders are involved and press articles have stated that foreign companies in particular are showing a keen interest in the contract. One of these is the British undertaking National Express (NX), which is planning to expand its activities in Germany by tendering for and winning contracts through its subsidiary National Express Rail GmbH (NX Rail). NX will also try to acquire market shares in the bus business through a further subsidiary, National Express Germany GmbH.

Challenges for the client bodies

The number of competitive tenders for the coming year will be at least as high as last year's level. Competition is expected to focus primarily on the Federal Laender of Bavaria, Baden-Württemberg and North Rhine-Westphalia, where the contracts are due to be awarded for a large number of networks.

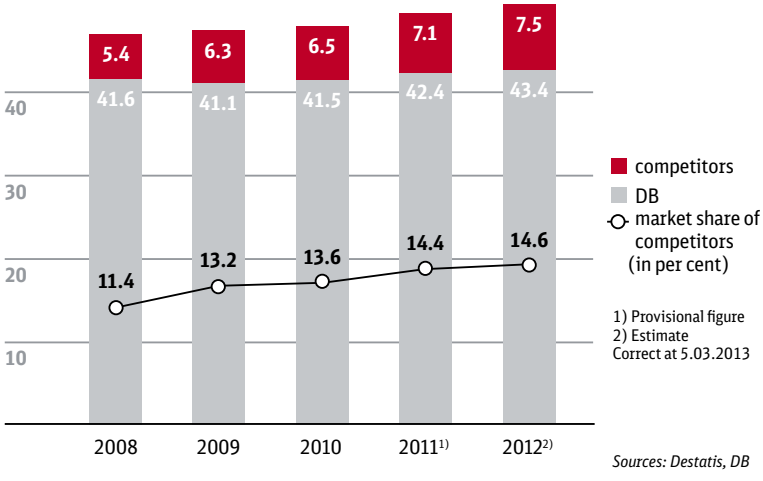
In 2012, however, various contract award procedures were revoked as the client bodies did not receive any eligible, economically viable bids (e.g. Dieselnetz Niedersachsen-Südost lots 1 and 2, Emsland/Mittelland express lines, Mittelland lot). Amongst other things, this is because the client bodies impose widely diverging, highly detailed and comprehensive specifications, which make participation in the tender procedure a time-consuming and expensive exercise.

> Participating in tender procedures is a time-consuming and expensive exercise for the railway undertakings.

Individual regions have come up with various solutions to make it easier for competitor railways to assume risks in connection with the financing of rolling stock and therefore make participation in tender procedures a more attractive proposition. One example is the financing model devised by VRR and NWL in which the railway undertaking purchases the rolling stock, but then resells it to VRR and NWL. Other regions offer redeployment guarantees, guarantees to meet the principal repayments, assignment of claims or even financial support in the form of municipal loans. In Lower Saxony, the transport associations Landesverkehrsgesellschaft (LNVG) and Zweckverband Großraum Braunschweig (ZGB) have organised rolling stock pools in an attempt to enable intensive competition for the networks which are up for award. Another model, known as a rolling-stock service model, is currently being implemented in Schleswig-Holstein. In this case, the Federal Land transport

company (Landesweite Verkehrsservicegesellschaft Schleswig-Holstein) has issued a tender for the provision of rolling stock for the rail network West which is to be awarded. This envisages that a rolling stock service provider will provide the future operator of West network with the vehicles and thus be responsible for the funding. However, such models are a source of heated debate. In a study on rolling stock financing in the regional rail market conducted in October 2012, management consultants SCI point out that when offering these vehicle pools, the client bodies forego the possibility of optimising rolling stock requirements as a competitive procedure. Rolling stock financing models and vehicle pools also harbour the risk that no significant market for used rolling stock can evolve over the long term, which would in turn also impact on competition in the regional rail market.

Railways continue to increase traffic performance in regional market
(billion passenger-kilometres)



1) Provisional figure
2) Estimate
Correct at 5.03.2013

Sources: Destatis, DB

Newcomers in the national long-distance market

Although Deutsche Bahn's competitors still account for only a low share of the long-distance market, competition nevertheless picked up speed in 2012. July saw the start of operations by the Hamburg–Köln-Express company (HKX), a joint venture founded in 2009 by Locomore GmbH & Co. KG, itself founded in 2007, and the investors Railroad Development Corporation and Michael Schabas. HKX claims to be the inexpensive alternative to Deutsche Bahn on the Hamburg–Cologne route. Operational management (i.e. all tasks required for railway operations) is handled by Veolia Verkehr GmbH, which provides the train drivers, train managers and locomotives, attends to some aspects of maintenance of the passenger coaches and also provides operational training for HKX service staff. Additional maintenance work is performed by DB Fernverkehr AG in Hamburg. HKX published initial operating figures one month after it started business and reported positive provisional results. At the same time, it announced slight price increases with the aim of establishing itself permanently in the market. (See Chapter 2 for new market entrants and competition in the European long-distance market).

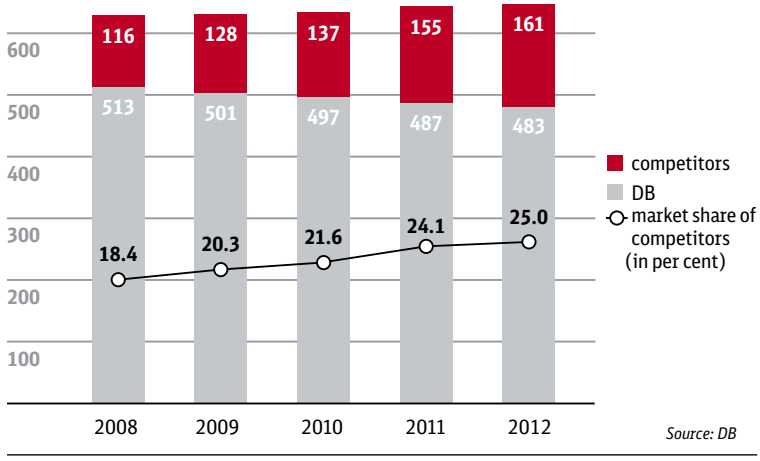
By contrast, the MSM Group – already known as a provider of charter train services to and from events and seasonal services - has not yet been able to enter the market as announced. However, it will reputedly join the market shortly, in the course of 2013. The company plans to serve the Cologne–Hanover–Hamburg and Cologne–Hanover–Berlin routes.

Despite the increasingly complex contract award procedures, more competitors again took part in 2012. Competition also remains fierce in the regional bus market.

Now that DB no longer cooperates with Thalys, the latter now also competes with DB in the long-distance segment. Thalys was formerly a joint venture operated by DB in cooperation with the French SNCF and Belgian SNCB railways. DB and Thalys are now direct competitors on both international (Cologne-Aachen-Liège-Brussels) and national (Aachen-Cologne-Düsseldorf-Duisburg–Essen) routes. Since 9 December 2012, Thalys has offered three daily connections between Paris in France and the German cities of Düsseldorf, Duisburg and Essen instead of the previous one (and operates one daily train in the opposite direction).

Since 2005, Vogtlandbahn GmbH, a subsidiary of Netinera, has operated the Vogtland-Express, which runs between Plauen in south-west Saxony and Berlin. However, because of the poor passenger figures, Vogtlandbahn-GmbH discontinued the train service with effect from 1 October 2012 and now operates a scheduled coach service instead. The company claims that the bus services can be provided at lower cost. It has also cancelled stops for which there was little demand along the route, such as the small cities Glauchau and Riesa.

DB Bahn Regional competitors succeed in raising market share to 25 per cent (train services in million train-kilometres)



Source: DB

Liberalisation of long-distance coach market at beginning of 2013

The revised Passenger Transportation Act became law in 2012, leading to full liberalisation of the domestic long-distance coach market, which now permits competition between coach companies and long-distance railway services. The only restriction is that there must be a distance of at least 50 kilometres between the individual stops or alternatively, that the journey time to the next stop must be at least one hour. This is intended to protect publicly subsidised bus and train services.

In 2012, a few small newcomers already offered long-distance coach services on some individual routes in Germany. Liberalisation of this market segment is expected to lead to a sharp rise in the services available and consequently to strong market growth in 2013. The providers MeinFernbus and Deutsche Touring, for example, are planning the rapid expansion of their long-distance coach networks in Germany. Various other companies, such as Veolia Verkehr, DeinBus.de, FlixBus, the British National Express Group and Deutsche Post – in cooperation with the German automobile association ADAC – have also announced plans to launch regular long-distance coach services.

Competition on rail – competition with rail

Competition between rail operators, but also with car, train and plane: this makes competition in the long-distance rail passenger market difficult. Journalist Eberhard Krummheuer investigates the reasons for this situation.

Report

Eberhard Krummheuer
Rail expert at 'Handelsblatt' financial newspaper

Top speed of 300 km/h, classy Italian design, upmarket service with fancy snacks and a never-ending supply of prosecco: in spring 2012, the battle for rail customers in Italy moved into the top league. Challenging the 'Frecciarossa' fleet operated by the incumbent, the Italo not only claims to be the most modern train in Europe, but also targets customers with the sassy slogan "At last you can choose". 25 brand-new AGV high-speed trains ("Automotrice à Grande Vitesse") from Alstom, makers of the French TGV, ("Train à Grande Vitesse") now depart at short intervals to provide fast and comfortable links between the metropolises of Italy.

When describing the wine-red, streamlined trains, the press soon coined the phrase "Ferrari on rails" – and not without good reason, as the key figure behind the private operator NTV (Nuovo Trasporto Viaggiatori) is, in fact, Ferrari President Luca Cordero di Montezemolo. He has steadily accumulated numerous prestigious Italian luxury companies and also ensured the relevant rail expertise when the French state railway SNCF took over a stake in NTV. According to the media, the Trenitalia contender has invested more than one billion euros in the project and the company has gone on record that it intends to be earning profits by 2014, or 2015 at the latest.

First-class quality for half price

There is also competition in the top segment in Austria, where "WESTbahn" has challenged the Austrian federal railway ÖBB on the Vienna–Salzburg line. With elegant double-deck trains manufactured by the Swiss company Stadler and attractive services such as free Wi-Fi internet access on board, the newcomer promises "the quality of first class" at half the price charged by the incumbent – with punctual trains running at hourly intervals.

The operating consortium Rail Holding is headed by Peter Haselsteiner, CEO of the Strabag construction group, reputedly one of the richest men in Austria. He, too, recruited rail expertise for the company, in this case a former member of the ÖBB Management Board and, as Chairman of the Supervisory Board, an almost legendary name in the European rail market: Benedikt Weibel, who was CEO of the Swiss Federal Railways SBB for many years. As in It-

Newcomers NTV (left) and WESTbahn (right) are challenging the incumbents in Italy and Austria by offering a high level of service quality.

aly, SNCF also has a minority shareholding in the Austrian venture. Rail Holding has invested approximately 130 million euros in this project. The Czech incumbent is also faced with competition on high-level intercity services: newcomers RailJet and Leo-Express now offer a classy alternative to the previous provider on two different routes, with comfortable new trains departing at regular intervals.

Berthold Huber, Chief Executive Officer of DB Bahn Long Distance, believes it conceivable "at least in principle on selected lucrative lines" that prominent business moguls could decide to follow the example of Italy and Austria and join the German long-distance rail passenger market and invest vast sums in attractive trains and timetables. (see Interview on page 16). At present, however, there is little evidence of modern rolling stock or frequent departures from competitors in the German market, let alone any hint of luxury. Although Hamburg-Köln-Express (HKX) launched services between Hamburg and Cologne last year, its business model takes its cue from no-frills airlines rather than the top-class concepts in place in Italy and Austria: customers who book early, pay low fares – but have to be content with a low level of service and only a few trains. There are a maximum of three connections a day between the cities and the journey takes approximately the same time as a DB Intercity train, although the company has opted for a shorter route so that trains do not stop in Bremen or Dortmund.

HKX has had to put up with harsh criticism from passengers about the quality of the trains: the company – whose investors include a US rail freight operator – began operations with refurbished rolling stock from the Trans-Europe-Express "Rheingold" dating back to the 1960s and 1970s. The coaches repeatedly had to be sent back to the repair depot and were replaced with cramped carriages that had been designed only for use on short-distance regional operations. Some trains ran with only two coaches, which were then packed to the very limits. In many cases, the coaches were taken out of service at short notice so that passengers frequently searched for their reserved seats in vain.

In a test report, the financial newspaper 'Handelsblatt' concluded that "This is a far cry from genuine competition." Taking stock of its performance at the end of January 2013, after the first six months in operation, HKX was nevertheless optimistic: in a newspaper interview, Managing Director Eva Kreienkamp announced that the company had achieved its initial revenues target and that 700 trains had carried 150,000 passengers between Hamburg and Cologne.

Fierce competition between car, train and jet

The start-up problems of this newcomer to the German rail network are symptomatic of the situation in the long-distance rail passenger market: in contrast to regional transport, the long-distance segment is a "purely commercial" business, with no billions of euros in subsidies available from the state. This creates "natural market barriers," explains Professor Gerd Aberle, a transport expert at Giessen University, who has followed the progress of the rail reform since it was first initiated more than 20 years ago (see interview on page 15). The German long-distance transport market does not consist only of train services by various providers. In addition to the obvious "intramodal" competition between different operators, there is also the much more crucial aspect of the omnipresent "intermodal" market, i.e. the daily competition between the transport modes of car, train and plane. Four years ago, an in-depth study conducted by the European School of Management and Technology (ESMT) in Berlin confirmed "that there is effective competition between budget airlines and railway un-

[EUR 1 bn]

Volume invested by the Trenitalia challenger

Ferrari President Montezemolo and his co-shareholders in NTV have taken on an ambitious project.

Transport experts are sceptical about whether competition in the long-distance market actually makes economic sense. HKX nevertheless drew a positive conclusion after the first six months of operation (right: interior of an HKX compartment).

dertakings." On lines where there is new competition from low-cost airlines, for example, the railway loses at least seven per cent of its customers, particularly on longer routes of 400 kilometres or more. The study found that the negative price effects for the railway undertakings were even higher.

Newcomers to the rail market have to be aware of these circumstances. Anyone planning to join the long-distance market has to be willing to invest huge sums of money, firstly to procure the trains themselves. "This leads to high initial investments, as no 'liquid' secondary market, for example for leased rolling stock, has evolved in this sector," comments Joris D'Incà, transport expert at Oliver Wyman management consultants. Maria Leenen, CEO and rail specialist at SCI Verkehr, adds: "The banks are no longer willing to assume the high investment risks – especially after the financial crisis."

Even newcomers who manage to raise the capital for new rolling stock cannot be sure of success. In addition to the substantial costs of marketing and sales, high operating overheads also constitute huge market barriers, according to Dieter Schneiderbauer, internationally respected transport expert and CEO of ECM Ventures GmbH in Munich. If a company then has to accept pressure on prices in order to gain a foothold in the market, it has to be able to count on relatively high capacity utilisation of 60 to 70 per cent "in order to guarantee profitable business operations over the long term", says Schneiderbauer. These newcomers face not only competition from other railway undertakings, but also from cars and aviation.

High costs

Financing the vehicles, marketing and sales, operating overheads: the market barriers for long-distance rail operators are high.

Attractive routes with high passenger volumes

Experience of competition in the European long-distance rail passenger market to date indicates that the best opportunities for competition between long-distance trains are on just a few lucrative routes with a high volume of point-to-point traffic and a high share of business travellers. The Rome–Milan line for instance, which now involves a journey time of just three hours thanks to the Italian high-speed trains, is the "ideal operating environment" for the NTV super train 'Italo', says expert D'Incà, adding that the state railway Trenitalia has been unable to exploit the advantage of its larger network and operating area. NTV meanwhile accounts for a market share of 20 per cent and its trains – like WESTbahn in Austria – have generated new customer potential and therefore shifted more traffic onto rail. In addition to significant price reductions of 15 to 30 per cent, the new competition has also led to better service levels and shorter journey times.

However, transport pundits remain sceptical as to whether this will be sufficient at the end of the day. All the experts agree that newcomers have to have considerable staying power to see them through the first few years until they reach breakeven and potential profits. Hans W. Friederiszick of Berlin Management School ESMT, for instance, wonders whether the Italian competitors have perhaps placed too much faith in the luxury aspect: "Too luxurious trains, too high costs of capital – the question is, will the existing market ultimately justify and repay these investments?"

A further market barrier exists on many European long-distance rail passenger routes which appear potentially interesting for competition: "The problem is that there are not enough train paths available, as rail infrastructure has already reached its limits on high-demand routes and at major hubs," states consultant Maria Leenen. This makes it all the more difficult for a newcomer to launch a convincing rival product which can compete against the existing services. "This is a challenge for both regulator and infrastructure managers," comments D'Incà, who believes that the relevant mechanisms will only begin

to take effect after a certain "start-up phase". An expertise prepared by the Monopolies Commission which advises the Federal government expressed concerns that "The lack of transparency and certainty with regard to free infrastructure capacity is a major barrier for companies wishing to join the long-distance rail passenger market." The Commission believes that the inability to guarantee infrastructure availability over the long term is "a serious market access problem" for newcomers who have to finance a product portfolio.

Meticulous train path award procedures

Competition expert Friederiszick does not subscribe to the allegations of discrimination that are frequently heard in the public debate: "This is de facto a problem of the network structure, which refers at least in part to a genuine coordination problem and has nothing at all to do with discrimination." He points out that the Federal Network Agency is an independent, competent regulatory authority that will gradually learn to cope with the complex tasks of rail transport. This opinion is also shared by Schneiderbauer: "When it comes to the allocation of infrastructure, Germany in particular guarantees fair access for all providers."

For years there have been neither allegations of discrimination nor any official complaint proceedings resulting from the complex process of train path allocation, which involves railway undertakings, DB Netz as infrastructure provider and the Federal Network Agency. There is a legally prescribed procedure for infrastructure allocation, which begins each April and continues through to autumn, in which every single step, including precise periods and deadlines, is specified and which demands equal treatment for all railway undertakings. In contrast to aviation, where dominant market players can demand "grandfather

Interview: *"Rail reform surpasses expectations"*

Prof Aberle, almost 20 years after the event: the rail reform of 1993/94 was intended to pave the way for competition on rail. Has this objective been achieved?
The rail reform has more than surpassed many expectations – also as regards competition. The regional rail passenger sector in particular is now an attractive market. Liberalisation has also led to many positive changes in the freight transport segment.

But why is there so little competition in the long-distance rail passenger sector?
More competition could stimulate an even better range of products. However, the high natural market barriers make this extremely difficult. Procuring the vehicles alone calls for exceptionally high investments. Moreover, there are hardly any train paths still available for attractive services on routes with high demand. What's more, intermodal competition with plane, car and in future also long-distance coaches means that the potential returns are low.

The incumbents make life difficult for newcomers who have to satisfy regulatory procedures before the first train ever gets underway.
Criticism of this kind fails to take into account that drawing up the timetable and consequently train path allocation require extremely complicated coordination processes involving immense organisational work. There is undoubtedly room for optimisation in that respect, but I do not believe there are sufficient grounds for accusations of discrimination.

WESTbahn in Austria and Italo in Italy have provided top-level competition for the state railways.
Yes, but there is far more money behind these services than investors have been willing to place in the German long-distance rail market to date. You also have to remember that the newcomers in Italy and Austria are competing against incumbents who do not exactly rank amongst the top carriers in the rail market in terms of efficiency and quality.

Prof Gerd Aberle *is one of the "fathers" of the rail reform. He was a member of the Federal Government Rail Committee and has remained a critical observer of Deutsche Bahn AG until today.*

To get back to Germany: How will long-distance coaches affect the market?
Intramodal competition on rail will become more difficult when intermodal competition becomes fiercer, especially if providers of new long-distance rail services continue to focus on the low-cost segment. Coaches can serve this segment much more effectively because of their far better cost structures.

rights" when it comes to the allocation of slots, the stringent and strictly monitored regulations in the rail sector do not grant incumbents any priority over newcomers. The allocation procedure is extremely complex, as the scarce capacities – not only on busy lines – have to be awarded fairly. The challenge is to reconcile highly diverse parameters, from the efficiency and running fitness of the rolling stock that is to be deployed all the way through to line characteristics such as curve radii and gradients. It also has to give priority to international train movements and regular-interval services and take into account the restrictions resulting from the approximately 30,000 to 40,000 cases of construction work on the infrastructure every year. In order to oblige its customers, DB Netz offers the option of framework agreements

Interview: *"Responding actively to competition"*

Mr Huber, Deutsche Bahn is in the process of losing its last monopoly in the long-distance sector. How do you feel about this?
Competition is good for us. Watching how others do things makes us more aware of the market and our products. It significantly improves our attention to costs.

What are your expectations?
I do not yet see any major competitor in our market, but we are paying keen attention to the rollout of services by the new competitor HKX between Hamburg and Cologne.

Relaxed or concerned?
Well, we never underestimate a competitor. And we are reacting: it is not a coincidence that we are deploying the first modernised Intercity trains on the same route as our competitor. This gives customers the chance to make a direct comparison of the journey quality.

Long-distance rail is a complex and capital-intensive business. Who could become a major competitor?
Apart from the other major state railways, a look at Austria and Italy shows how the land lies. Prominent business players are joining the market, investing vast sums in new trains and attractive services on lucrative high-demand routes. That is fundamentally also conceivable in the German market.

There is also additional competition between rail, aviation, long-distance coach and car travel.
Of course, intermodal competition. When Lufthansa and Air Berlin engage in a price war and offer cut-throat prices on domestic German routes, we see a decline in the number of rail passengers. But when the fares go back up again, the customers soon return to rail.

How will you respond to the admission of long-distance coaches to the market?
We definitely expect to see major players from Germany and other countries here. We plan to join this market in stages and offer integrated bus and train services on routes where road offers better connections. One example that is already up and running is the ICE Bus between Nuremberg and Prague.

Will DB Bahn Long Distance also compete in foreign rail markets?
Yes. We plan to extend the ICE services between Frankfurt and Brussels on to Paris as soon as we have the trains to do so. There are also other projects for which we are looking for foreign partners, such as the Czech company Student Agency, which already offers long-distance services in the Czech Republic. We are planning to cooperate with them on the Berlin–Prague route.

***Berthold Huber** is CEO of DB Bahn Long Distance.*

Following a change in transport legislation, not only tourist buses (left: on the motorway in Ostholstein) but also regular service long-distance coaches can now compete in the German market (right: departure displays for long-distance coaches at Munich bus station).

which fundamentally safeguard access to infrastructure for a period of five years, within legally defined timetable periods. The next period will begin on introduction of the new timetable at the end of 2015 and will continue until 2020. These framework agreements specify provisional train timetables which are narrowed down to a time slot of ten minutes.

In a report on competition in the rail sector in 2010/2011, critics such as the competitors of Deutsche Bahn lamented the insignificant role of competition in the long-distance segment. Commenting on the launch of HKX, Cologne Institute for Economic Research expressed its concerns about the problematic issue of "competition-free long-distance transport". Nevertheless, experts from both practical and academic sectors question whether competition in the long-distance transport market actually makes sense at all in macroeconomic terms in view of the severe bottlenecks on the principal lines and the dubious prospects of success for newcomers.

Critical questions about intramodal competition

In November 2010, Giessen University published a working paper in which scientists Georg Götz and Benjamin Pakula drew attention to the strong intermodal competition from private motorised traffic and aviation for the long-distance rail passenger sector, pointing out that this alone is sufficient to reduce the market clout of the major railway undertakings. The authors believe that it is overly simplistic to assume that "the central position of the incumbent in a market segment leads directly to market dominance which is detrimental to welfare". They claim that in the rail market, it is unlikely that competitors in open-access regimes can obtain decisive market shares, even over the long term. The study therefore concludes that "the question at this point is whether competition in such a case is in fact at all desirable." The consultancy sector comes to a similar conclusion: Maria Leenen of SCI regards the long-distance activities of the major railways as "what economists would refer to as 'natural monopolies'. In the interests of passengers' rights, these have to be well monitored, but competition at any price in the long-distance transport market is not the right approach and actually harms the rail mode." This is especially evident in the international long-distance rail market. Expert Schneiderbauer reports that in recent years, the railways had formed alliances which put them in a position to face the growing competition from airlines. Although these joint ventures were condemned by the incumbents' competitors, they did not infringe any antitrust legislation, as competition is not restricted to the intramodal aspect, but also includes intermodal competition. The cards are about to be reshuffled when a new player – the long-distance coach – joins the intermodal battle for customers. Consultant D'Incà expects "long-distance coaches to achieve a significant market share of between six or seven per cent within a very short time" – as is the case in the United Kingdom and Sweden – and predicts that long-distance rail services will lose price-sensitive customers on some routes. At the end of the day however, concurs Schneiderbauer, passengers are more likely to switch from car to coach than from rail to road.

> Bottlenecks in rail infrastructure call for complex interaction between rail, DB Netz and the Federal Network Agency.

In 2012, freight transport developments were defined primarily by the difficult economic environment. The downturn in the economy also affected container shipping (right).

Difficult market environment for freight transport in 2012

Last year saw a global decline in demand for freight transport, with European rail freight operators particularly badly hit. Rail freight in Germany performed better than the international average.

almost -2%

drop in demand in the entire German transport market

Traffic performance fell sharply for road haulage and above all for rail freight.

Trends in the international transport and logistics markets are determined first and foremost by world trade. In recent years, this has always performed well in comparison with the world economy. However, with an increase of roughly two per cent in 2012, the trend for world trade was roughly on a par with global economic performance. Trends for the international flows of goods were affected by sharply declining sales figures and reluctance on the part of investors. This had a corresponding negative effect on demand for transport. In the global markets, air freight suffered particularly badly and again lost significant quantities. Container shipping also felt the downturn, but nevertheless achieved a slight increase in volumes. This poorer performance was reflected in the decreasing throughput rates at the European seaports. As the economic downturn was driven by the national debt crisis in the euro area, performance in the European transport market was even worse than elsewhere. According to DB's own estimates, none of the transport modes succeeded in matching the previous year's figures. In Germany, demand for transport was down by a total of almost two per cent, although performance differed between the individual modes. While inland shipping achieved a significant increase, traffic performance by road and rail freight declined. With a decrease of roughly three per cent, the trend for German rail freight operators was nevertheless still above average in a European comparison.

Positive trend for inland shipping after slump in previous year

In 2012, the German inland shipping sector improved its traffic performance by 6.3 per cent. However, this growth is attributable entirely to a positive base effect after the previous year's slump of 11.6 per cent, caused primarily by the closure of the Rhine after an accident at the beginning of 2011 and restrictions owing to flooding and low water levels throughout almost the entire year. In 2012, the restrictions resulting from adverse weather conditions were comparatively low. However, the recovery was hampered by the lack of economic stimulus, so that growth was lower than anticipated. After falling to an all-time low of 8.5 per cent in 2011 because of the drastic drop in traffic performance, the market share of inland shipping was back up to 9.2 per cent again in 2012.

Above-average trend for Eastern European trucks

The year 2012 saw a noticeable downturn in the trend for road haulage (German and foreign trucks, including cabotage transports in Germany), the dominant mode in the German freight transport market. As a result of the low economic stimulus, traffic performance was down year-on-year in all four quarters. For 2012 as a whole, demand fell by roughly 2.5 per cent. In the previous year, the slump for inland shipping had led to an increase in the market share of road haulage, which decreased slightly back to 71.1 per cent again in 2012.

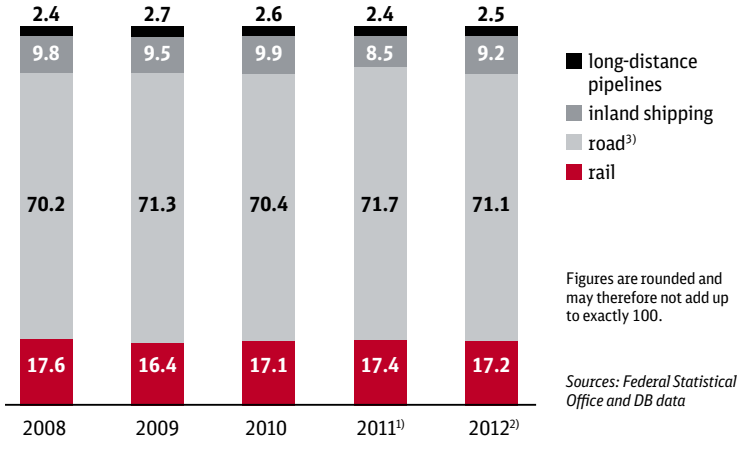
A breakdown of the road haulage figures into the licensing countries of the individual vehicles once again reveals significant differences in the trends. According to DB's own estimates, traffic performance by trucks licensed in Germany, measured in tonne-kilometres, decreased by more than 4.5 per cent, whereas trucks licensed in other countries increased their traffic performance by approximately 1.5 per cent. However, this growth was attributable primarily to truck transports from Central and Eastern European countries: the most successful countries in that respect were Romania and Bulgaria, followed by Lithuania, Poland, Latvia and Slovakia. In Western Europe, especially Scandinavia, Italy and the Netherlands suffered significant decreases in truck transports.

Capacity bottlenecks in the European road haulage market in 2012 were comparatively rare and usually restricted to certain transport routes or individual regions. Intramodal competition was accordingly fierce and led to permanent pressure on prices. The market players had to realise that their own cost increases – resulting especially from higher diesel prices and road tolls – could be passed on to the customers only to a limited extent. Price levels were therefore up only slightly year-on-year. According to DB's own estimates, traffic performance in the European road haulage market failed to reach the previous year's level.

Market share of rail freight in Germany slightly down

Traffic performance by rail freight in 2012 was down by approximately three per cent year-on-year according to DB's own calculations. By September, demand

Market shares of rail freight operators slightly down in 2012
(per cent; basis: traffic performance; figures rounded)



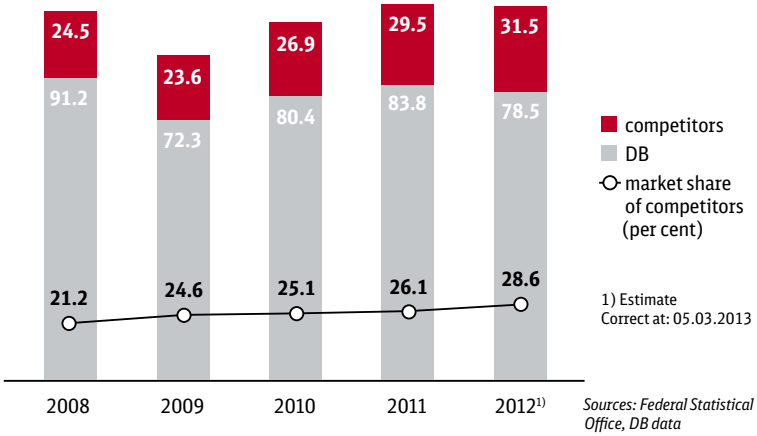
Figures are rounded and may therefore not add up to exactly 100.

Sources: Federal Statistical Office and DB data

1) Provisional figure 2) Estimate 3) German and foreign trucks (incl. cabotage transports in Germany)
Correct at: 25.03.2013

had slumped by 4.2 per cent, compared with an increase of 7.4 per cent for the same period in the previous year. It was not until the end of 2012 that the year-on-year decline was less pronounced, but this was largely because the stagnant trend for traffic performance had already begun to take hold in 2011. One of the main reasons for this negative trend in 2012 was the lack of any economic stimulus. In sharp contrast to the German rail passenger market, which benefited for example amongst other things from rising numbers of gainfully employed and higher incomes, the environment for freight transport was extremely weak, with noticeably declining production figures in all sectors of industry. The coal and steel industry, which plays a key role for rail freight, was particularly adversely affected. This was for example reflected in the sharp decline in the transport of ore, metals/metal products and secondary raw materials. The drop in traffic performance by rail was accompanied by a slight decrease in its market share. Rail lost some of the market shares which it had gained the year before as a result of the slump in inland shipping and dropped to a level of 17.2 per cent.

Increase in traffic performance by competitor railways
(billion tonne-kilometres)



1) Estimate
Correct at: 05.03.2013

Sources: Federal Statistical Office, DB data

Single wagonload traffic suffered sharper decline than block trains in 2012

Intramodal competition in the German rail freight market remained highly intense in 2012. As in previous years, there were significant differences in performance by the DB Schenker Rail companies and their competitors.

After strong growth in the preceding years (2010: 11.2 per cent, 2011: 4.3 per cent), traffic performance by DB companies 2012 slumped by 6.3 per cent in 2012, with transport by single wagons and rakes of wagons faring worse than block train transports. One of the reasons for this was the poor performance by the coal and steel industry, as freight in the segment of "metals and semi-finished products" and also scrap metal, which is classified as a secondary raw material, is carried primarily as single wagonload transports. Together with ores, which are carried primarily as block train transports, these accounted for almost 45 per cent of the total decrease in 2012, although they make up just under one third of total traffic performance. The declining volumes in the block train segment were alleviated by strong growth in the transport of coal. The intermodal transport also suffered severe losses. Firstly, in addition to general economic effects, massive disruptions caused by construction work and natural disasters

Air freight (left) was particularly affected by the worldwide decrease in transport volumes. Road haulage also failed to match its performance year-on-year, with demand down by 2.5 per cent.

such as falling rocks on transalpine routes curbed demand. The Gotthard railway line, for example, had to be closed to traffic for almost 40 days in 2012. Secondly, DB companies had to surrender transport volumes to competitors. In addition to the above structural and special effects, the downturn in traffic performance can also partly be attributed to extensive portfolio adjustments which were implemented in 2012. An analysis of performance by rail freight on the main international transport routes shows that these too suffered from the impact of the poor economic trends in Europe. The decrease in international transports, and in particularly transit traffic through Germany, was more pronounced than for domestic transports. Overall, DB Schenker Rail's share of the rail freight market was down by roughly 2.5 percentage points.

Competitors continue to achieve above-average performance

The positive trend of the past years for competitor rail freight operators continues: in comparison with the DB companies, they have achieved significantly more dynamic growth for more than ten years. Despite a weak general economic climate, their performance rose by approximately 6.5 per cent in 2012. The reason for this divergent development is first and foremost the still highly disparate freight structure of the DB companies and their competitors. Almost 45 per cent of the total freight carried by competitor railways refers to intermodal consignments, which – in terms of absolute figures – achieved the highest growth in the freight market.

The persistent poor situation in the coal and steel industry also curbed demand from DB's competitors. However, the influence of this industry on the overall figures for competitor railways is hardly noticeable, because this sector accounts for a share of only approximately six per cent of the total freight. As a result, competitor railways once again succeeded in raising their share of the rail freight market in Germany by almost 2.5 percentage points to 28.6 per cent. The market share of competitor rail freight operators across all sectors of industry has risen by almost ten percentage points since 2007. Considering only the three key industry sectors of intermodal consignments, liquid petroleum products and building materials (the latter refers primarily to sand, gravel, clay, cement, lime and gypsum), which together account for approximately 70 per cent of total traffic performance by DB's competitors, their market share already surpasses 40 per cent. Looking at the last five years their share across all sectors of industry has risen from 19.7 per cent in 2007 by almost ten percentage points to 28.6 per cent in 2012.

> International transports, especially in transit through Germany, decreased to a greater extent than domestic traffic.

Declining traffic performance in the European rail freight market

Although performance by rail freight operators in Germany was extremely weak, it was nevertheless still above the overall European average. After two years of growth rates of more than seven per cent, traffic performance in the European rail freight market, which covers the 27 EU Member States as well as Switzerland and Norway, was down by approximate-

The growth market of rail freight transport benefits from rail's environmental advantage and the ongoing liberalisation of the rail markets (far left: hydroelectric power station on the River Moselle which will supply electricity to DB as from 2014).

ly five per cent in 2012 according to DB's own research. With the exception of the year 2009, this is the worst decrease for more than ten years. The downturn which began in the second half of 2011 continued in 2012.

This low demand is attributable first and foremost to the poor economic situation in the wake of the national debt crises in the euro area. The declining economy affected sectors which play a key role for rail freight, such as coal and steel, and the building industries. A closer look at the individual countries shows that virtually all European rail freight markets recorded significant decreases in traffic performance, with the Eastern European countries Bulgaria, Poland and Romania as well as Sweden in the Northern and Spain in the Western peripherie of Europe particularly badly affected. Major players in the transport market also suffered from these declining volumes: the Polish rail freight operator PKP Cargo alone was faced with a decline of 9.1 per cent in 2012. With a decrease of 5.4 per cent in tonne-kilometres, the trend for transports by DB Schenker Rail in Europe was more or less parallel to the rail freight market as a whole.

The economic downturn affected important sectors for the rail freight market, such as coal and steel.

Continuing positive growth forecasts for the global freight transport markets

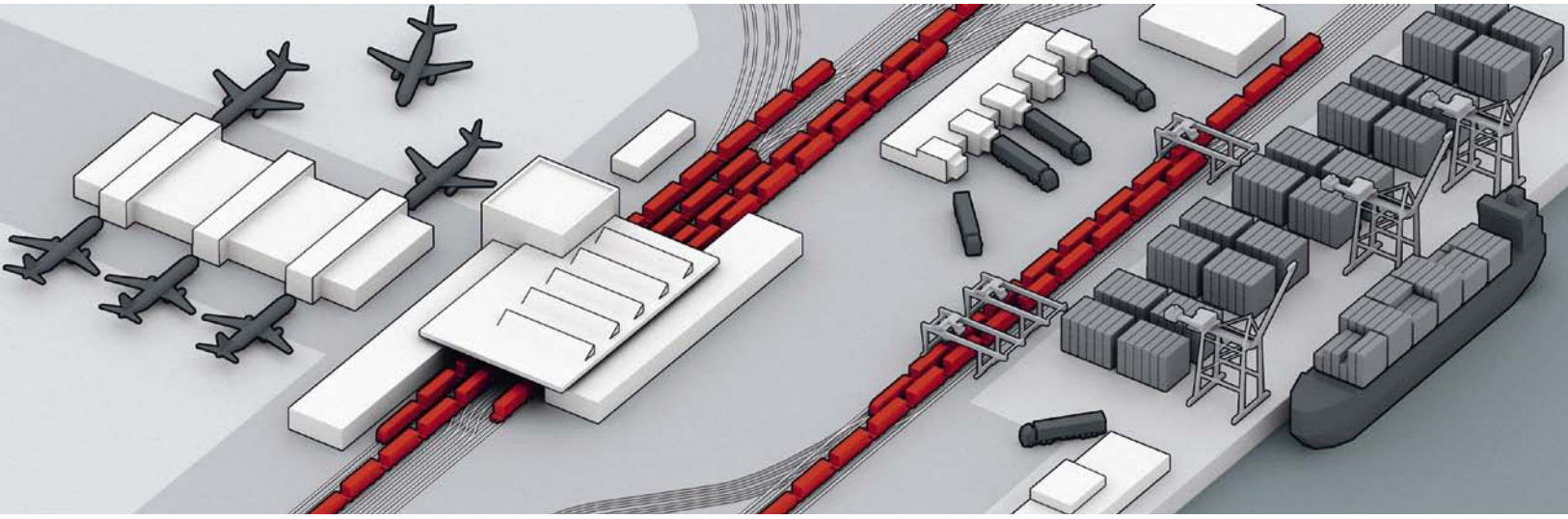
Despite the slump in rail freight transports in Germany as well as the other European countries in 2012, rail freight is nevertheless a growth market when considered on a global scale and over the long term. Between 2002 and 2012, for example, rail freight traffic performance in Germany increased by almost 36 per cent, that means approximately three per cent per annum. By comparison, growth for the overall freight transport market in Germany amounted to just 21.5 per cent or approximately two per cent per annum.

The medium and long-term prospects for rail freight are therefore still positive. In the latest edition of the "World Transport Report", which is produced every other year, for example, Progtrans AG, the Swiss consultancy forecasts above-average growth amounting to almost 2.5 per cent for Germany between the years 2011 and 2020/30. The same applies to the European Union, where growth is forecast at two per cent per annum.

Continuous adjustment process

These positive developments will be the result primarily of the forecast growth in global trade flows, increasing export and import figures for the European ports and the increasing trend towards containerisation, which has already been apparent for some years. The growing importance of rail's environmental advantages as well as continuing liberalisation of the European markets are other factors which will promote growth for rail.

However, this positive forecast goes hand in hand with various challenges. Rail freight operators who wish to participate in this growth firstly have to satisfy the requirements of the market and secondly, need competitive conditions. If they are to satisfy the demands of the market in terms of quality, flexibility, price etc., they have to implement a continuous adjustment process, which in turn entails high investments.



Ongoing challenges for rail freight operators

The rail freight market is confronted with numerous challenges. After the economic crisis of 2008/09, traffic performance by rail freight achieved impressive growth in the two years that followed. However, this has to be offset against a disproportionately high increase in costs since 2007, for instance for energy and human resources. Revenues could not keep pace with those increases, as the severe competition leaves only little leeway for price increases. Hence, despite the efficiency and rationalisation campaigns initiated after the economic crisis, it has still not been possible to compensate for these rising costs. The already difficult situation in the rail freight market was further aggravated by declining demand in 2012. Over the last few years, no major European rail freight operator achieved profits which could be reinvested. The players still have to battle against high deficits and structural challenges in a highly volatile overall economic environment.

There are hardly any private investors active in this market. Private capital accounts for a share of only around four per cent of total European traffic performance. The appearance of new entrants is becoming increasingly rare and there is a stronger trend towards market consolidation. These developments are undeniable proof that rail freight transport is not profitable enough. The latest study published by the German consultancy company SCI Verkehr on behalf of an investment company on the current situation in the European rail freight market in 2012 confirms that many rail freight operators are faced with a critical earnings situation.

In addition to the sharp rise in costs for rail freight transport, the operators also have to invest significant sums in noise abatement and improving interoperability. For example, they are obliged to introduce the European Train Control System, ETCS, and are faced with additional burdens resulting from the very expensive and time-consuming vehicle approval procedures.

Rail forwarders demand appropriate framework conditions

In January 2013, at the sixth rail freight transport forum hosted by the Association of Materials Management, Purchasing and Logistics and the Association of German Transport Undertakings in the city of Cologne, Olaf Krüger, Chairman of the Community of Interests of Railway Forwarding Agents, stated that the politically caused additional costs alone for the rail mode amounted to a "subjectively felt 40 per cent" of the base costs. There is therefore urgent need for political action to enable transport to operate cost effectively as the basis for sustainable growth. Appropriate framework conditions for transport and energy and aid programmes are now required to back up the efficiency and rationalisation campaigns which some railways have already implemented or initiated. As rail freight transport increasingly takes place on an international scale, national instruments will not be sufficient to solve these problems. Top priority therefore has to be given to measures at European level.

> Since 2007, rail freight operators have had to cope with significant cost increases, for instance for energy.

Sustainable increase in funds for existing infrastructure

The future funding of rail infrastructure has to be clarified as soon as possible to ensure a continuing high quality of services. There are only two potential sources of funding: infrastructure charges or state subsidies.

950.000

train paths
are awarded every year for occasional transports. No application has ever had to be refused because of train path conflicts.

Growth by competitor railways on the DB rail network continued again last year. Operating performance amounted to approx. 230 million train-path kilometres in 2012, an increase of just under five per cent year-on-year. This increase resulted from the rising transport volumes handled by competitors, especially in the passenger sector. By contrast, operating performance by DB companies continued to decline, above all owing to the trends in the freight transport sector. However, DB also handled fewer train-path kilometres in the regional and long-distance sectors in 2012. Overall, the increases for competitor railways could not compensate for the declining volumes handled by DB companies, so that total operating performance on DB infrastructure fell slightly short of the 2011 level. The total market share of competitors rose to more than 22 per cent and in the rail freight sector, almost every third train-path kilometre was handled by a competitor operator.

DB Netz AG received a total of almost 60,000 train path applications for the 2013 working timetable – the highest figure ever recorded by the company. This is an increase of 6.6 per cent year on year; compared with the 2009 working timetable, the number of applications is actually up by 22 per cent. The main reason for this increase in recent years is that planned construction work is increasingly taken into account in the working timetable. This gives DB Netz AG's customers better planning certainty, as they can make due allowance for planned construction projects at an early stage. However, this procedure imposes considerable demands on DB Netz when compiling the timetable, so that there is a limit to the total number of construction projects that can be taken into account.

Non-discriminatory access to rail infrastructure functions well

The train path applications submitted by customers initially led to a total of 12,500 conflicting applications. Conflicts occur, for example, when two customers apply for the same time slot on the same line and they are resolved in the course of specifically defined procedures. By far the greater majority of all conflicts can be settled by mutual agreement between all the parties involved in the course of the coordination procedure conducted by DB Netz AG.

Amongst other things, approx. 2500 kilometres of rails and almost two million sleepers were exchanged in 2012 as part of the rail infrastructure renewal process.

In 2012 the legally prescribed procedures (decision-making and bidding price procedure) had to be invoked only in 19 cases in which no amicable solution could be reached. In the official decision-making procedure, applications are prioritised according to legally prescribed regulations. As in the past years, all the conflicts could be resolved in this way in 2012 and compilation of the working timetable was completed on schedule. There was again no need to invoke the top price procedure. In addition to the train paths specified in the working timetable, train paths are also required for occasional transports, many of which are operated only once. The approximately 950,000 train paths per annum required for these occasional transports refer primarily to freight transport, and often have to be found at less than 48 hours' notice. To date, not one single train path for occasional transports has had to be refused owing to conflicting applications.

Increasingly positive customer ratings for timetable quality and condition of infrastructure

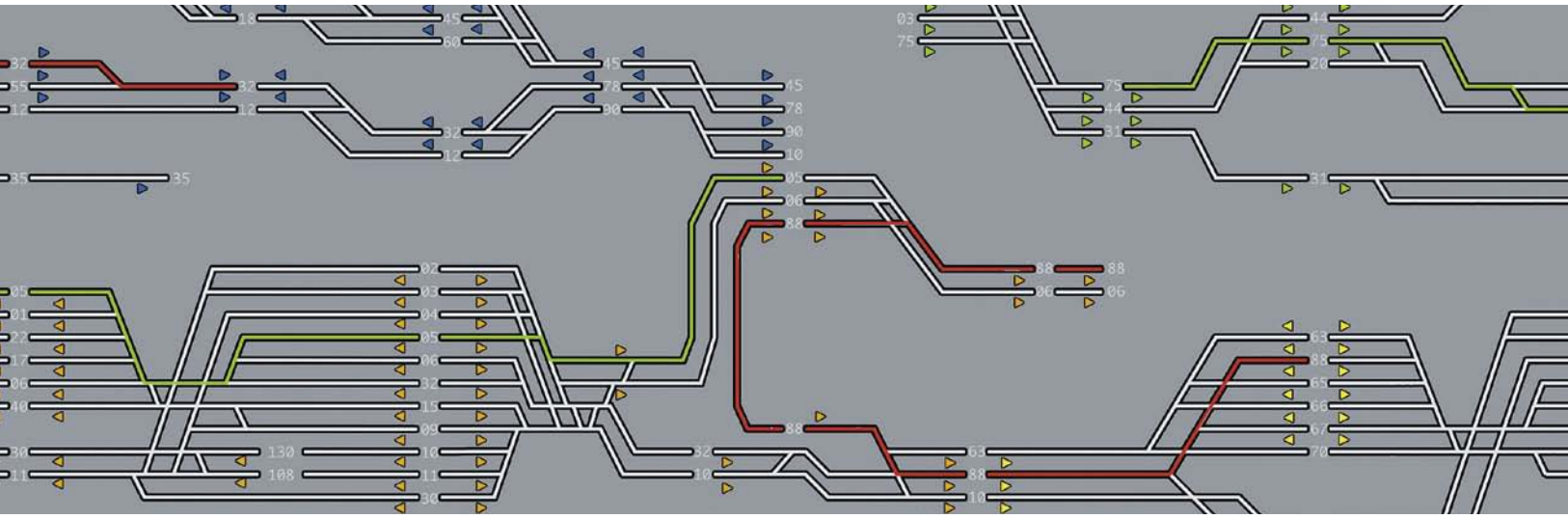
Train path allocation is a good example which shows that non-discriminatory access to infrastructure functions effectively in Germany. The processes and procedures that have been designed to resolve such conflicts lead to logical and transparent decisions, which are moreover monitored by the regulatory authority. In the latest market study conducted by the Federal Network Agency, the railway undertakings state that access to rail infrastructure is positive on the whole, rating the award of train paths for occasional transports and also for the working timetable as "good". Timetable quality also received good marks. On the whole, it is evident that the customers' assessment of many aspects relating to access has improved continuously over the years. The customer rating for the condition of infrastructure maintenance has also improved, not least because of the successful effects of the Performance and Financing Agreement introduced in 2009. Instead of the previous system of monitoring orders and the appropriation of financial resources, the new system is based on "output control", i.e. compliance with contractually defined quality characteristics by Deutsche Bahn.

> The Performance and Financing Agreement of the year 2009 has significantly increased infrastructure quality.

Under the new regime, the Federal government provides a lump sum of EUR 2.5 billion per annum for replacement capital expenditures. DB contributes an annual sum of EUR 500 million of its own funds for investments in existing infrastructure and also funds the entire maintenance itself (at least EUR one billion per annum). This changeover to an output-based system of financing the existing network has given infrastructure managers far better scope for investing the scant financial resources in those projects where they can yield maximum benefits. Since the introduction of the new system, it has, for example, been possible to significantly reduce the number of infrastructure deficiencies and the theoretical journey time losses.

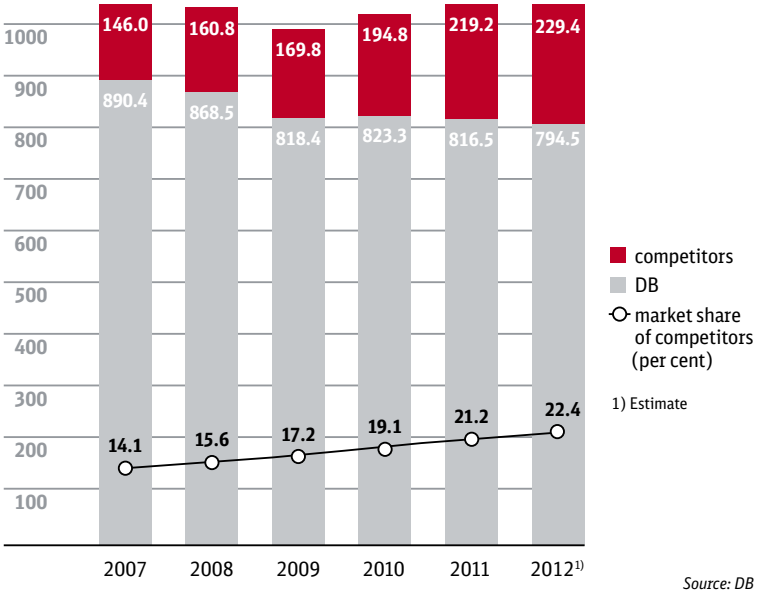
Infrastructure essentially underfunded

However, these positive results should not obscure the fact that the existing infrastructure in Germany is essentially underfunded. It is already clear now, that



in future, a substantially higher sum will be needed for replacement investments in order to operate the existing network at a high quality level it is providing today. At present, it is unclear where these additional funds are to come from. Deutsche Bahn believes there are only two potential financing options: either from the company's own funds, that means from the infrastructure charges paid by the users, or alternatively, from state subsidies, which means from the Federal budget. It has to be clear that there is no third option. Borrowing to raise the required funds certainly cannot be seen as a sustainable solution; on the contrary, that would lead to exactly the same financial problems which ultimately caused the downfall of the former state-owned Deutsche Bundesbahn.

Competitor railways continue to gain ground (figures based on domestic operating performance by DB Netz AG, billion train-path km)

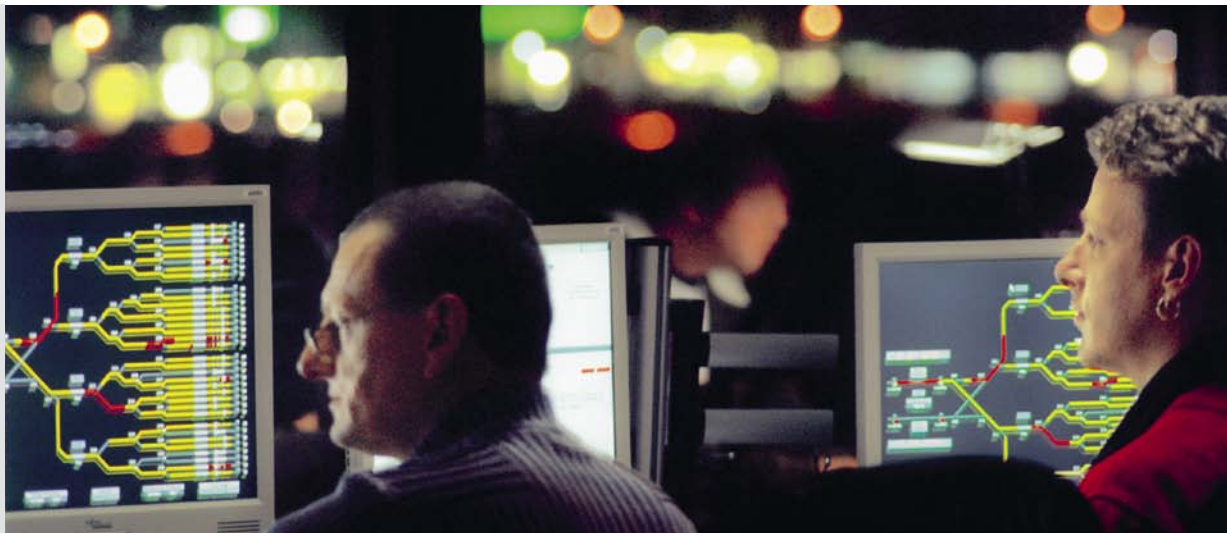


Source: DB

Corporate investments have to be profitable

As regards the funding of Federally owned railway infrastructure, pursuant to Article 87e (4) of the German Constitution, the Federal government has a legal warranty obligation which it cannot renounce. Parallel to that obligation, Deutsche Bahn is willing to continue to uphold its already high financial contribution.

If financial resources earned from DB's business activities are used to fund rail infrastructure, however, it has to be borne in mind that the DB infrastructure managers, like the entire DB Group, have a constitutional obligation to act as profit-oriented business enterprises. Accordingly, fundamental aspects of financial and company law have to be observed (see also the next chapter). This means, for instance, that a company will only make investments which will "pay off", that means if the company believes it is likely that it can earn back both the invested capital plus a reasonable return. Investments financed directly by the company have to be shown in the balance sheet and have to be recouped at the level of depreciation. Moreover, the company is entitled to earn interest on this tied capital. Expanding investments thus lead to higher depreciation and capital costs, which have to be refunded by the users by way of the infrastructure charges. This ultimately means that the users have to pay higher



In 2012, the DB Netze Track Business Unit had a total of 415 electronic interlockings, which make infrastructure operations much more efficient.

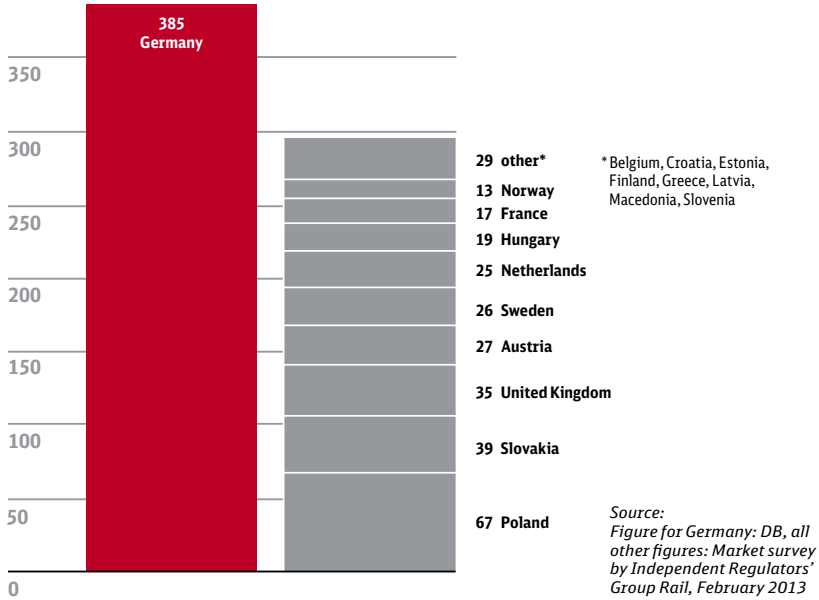
infrastructure charges. As railway undertakings have to contend with fierce intermodal competition, the infrastructure companies constantly have to review whether and to what extent price increases can in fact be sustained by the actors in the downstream transport markets.

Additional DB funds from the Rail Financing Cycle

The political players in Germany have a decisive influence on the extent to which Deutsche Bahn could conceivably provide further funds of its own for infrastructure investments, as the regulatory framework obviously has a crucial effect on the company's investment capacity in each individual case. The objective of the legislative bodies has to be to maintain the economic attractiveness of the rail sector and ensure at the same time that the necessary incentive for investments is not destroyed by regulatory intervention in the market. Even in a regulated environment, the infrastructure managers must in future still have the opportunity of earning a reasonable return on capital which they have financed from their own resources.

The fact is that Deutsche Bahn has again increased its already high share of infrastructure funding as a result of the Rail Financing Cycle agreed with the Federal government in 2011 that was introduced as a new financing instrument. This will enable an additional sum of more than EUR one billion to be invested in rail infrastructure in the form of Federal subsidies in the years 2012 to 2015. A substantial part of these additional funds provided by the Federal government derives from the dividend paid by DB AG to the government. The company paid a dividend of EUR 525 million for the financial year 2012. According to agreements between DB AG and the Federal government, there are plans to raise the dividend to EUR 700 million as from the year 2015. In contrast to investments financed with DB's own funds, public subsidies are not included in the infrastructure managers' balance sheets, so that there is no additional depreciation or costs of capital which would subsequently have to be recouped through the infrastructure charges.

Germany has more active railway undertakings than many other European countries put together (number of active railway undertakings, 2011, absolute figure)



Source:
Figure for Germany: DB, all other figures: Market survey by Independent Regulators' Group Rail, February 2013

Transparent internal relations at DB

A fact-check reveals that the financial relations inside DB are legitimate and transparent: DB's integrated structure benefits not only the infrastructure managers, but the rail sector as a whole.

[EUR 2 bn]

have been supplied to DB Netz AG by the DB Group up to 2012. Almost EUR 800 million referred to the assumption of losses, EUR 1.2 billion took the form of equity capital increases.

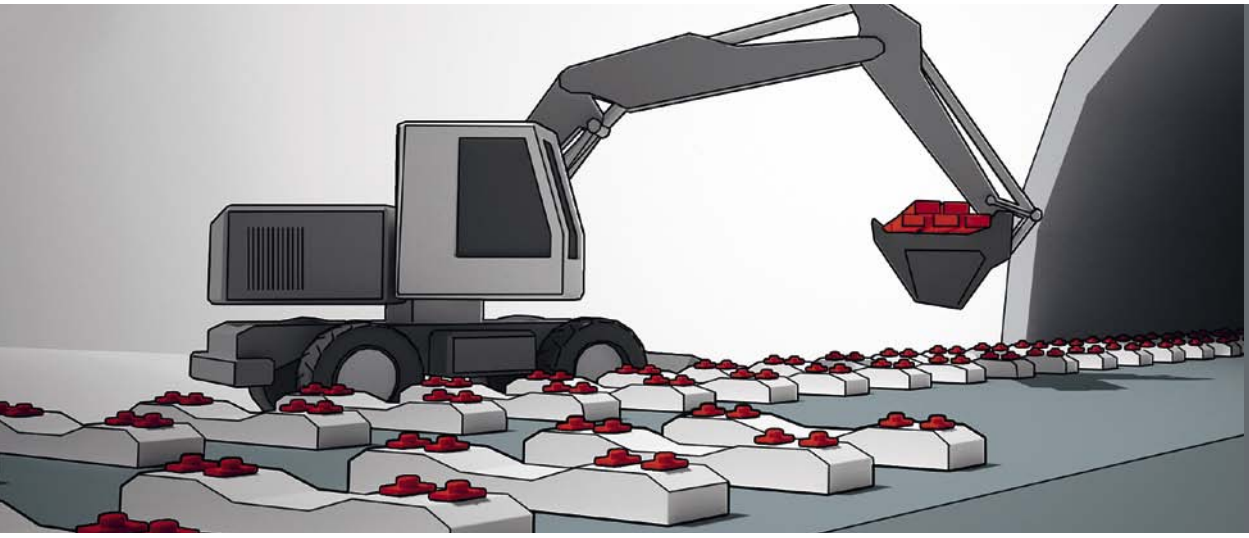
The EU Commission and some individual representatives of competitors' associations and political parties demand an end to the financial relations inside the DB Group, although profit and loss compensation between integrated companies is common practice. This discussion is based on misunderstandings and allegations that do not hold up to scrutiny. The EU Commission, for example, claims that the internal financial relations at DB are not transparent and takes that as justification for further unbundling measures. The following fact-check takes a look at the allegations that have been made and rectifies the picture.

Infrastructure managers profit from the integrated structure

Allegation: *The DB Group withdraws funds from its infrastructure companies and uses profits from infrastructure to cross-subsidise other subsidiaries or to go on an international shopping spree.*

This accusation is false and can be clearly refuted. The profit and loss transfer agreements between the Group and its subsidiaries govern not only the transfer of profits but also the assumption of losses. This is not a "one-way street". Only in five years since its formation in the year 1999 has DB Netz AG earned profits which it has transferred to the parent company. In all other years, the DB Group had to compensate for the losses made by its network division. Moreover, all the major takeovers made by the DB Group refer to years in which DB Netz AG made a loss: the logistics companies Stinnes/Schenker in 2002 and Bax Global in 2006, the passenger transport provider Arriva in 2010.

Despite better financial results in recent years, the assumption of losses is on balance still almost EUR 800 million higher than the profits which were transferred. In order to reduce the debt level of DB Netz AG, the Group also raised its equity capital by EUR 600 million in 2005 and by a further EUR 620 million in 2010. The company currently has equity capital amounting to approximately EUR 7.3 billion. Overall, therefore, the DB Group has supplied DB Netz AG with approximately EUR two billion. It is therefore undisputed that the subsidiary has profited from the Group, and that under no circumstances is it right to say that "money was withdrawn" from the infrastructure manager.



Since 2000, DB has invested an annual sum of approx. EUR 800 million of its own funds in rail infrastructure – although in most of these years, DB Netz AG made losses which were compensated by the DB Group.

Higher earnings resulting from better efficiency

Allegation: *The positive earnings trend for infrastructure derives from an excessive increase in infrastructure charges.*

This statement is also inaccurate. Over the last few years, the infrastructure companies have substantially improved their economic performance. This positive trend is the result of productivity increases and better capacity utilisation. This is particularly evident from the benchmark of employee productivity (train-path kilometres per employee), which has increased by more than 70 per cent since the year 2000.

The management of DB as an integrated group of companies has played a decisive part in this development. In its role of system integrator in Germany, DB AG optimises the wheel-rail system and thus fulfils a key function as technological driver. The integrated group structure enables DB to exploit positive synergies and to gear its infrastructure to efficiency, market requirements and cost effectiveness. This increase in productivity benefits both DB and non-DB railway undertakings when competing against the other transport modes. The railways benefit from low infrastructure charges which enables them to realise cost benefits. In contrast to the accusations, there has not been a disproportionately high increase in infrastructure charges. Between 2005 and 2012, the average annual in increase in track access charges amounted to 2.14 per cent per annum – despite substantial improvements to the infrastructure quality and the inauguration of premium high-speed lines such as Munich-Ingolstadt-Nuremberg. By contrast, the producer price index, which is the relevant reference index, rose by 2.41 per cent per annum during that same period.

Basis for investment decisions

Allegation: *Ending the financial relations within the DB Group would ultimately lead to higher investments in the German rail network.*

Termination of the profit and loss transfer agreements would not solve the infrastructure financing problem. Since 2000, the DB Group has invested an annual sum of approximately EUR 800 million of its own funds in DB Netz AG, although the infrastructure manager operated at a loss in most of these years, as shown in the diagram on page 33.

Regardless of the earnings situation, the Group was convinced that these investments in infrastructure would pay in the long term. When making investment decisions, it is not a question of the actual profit situation at the company at the time, but whether these investments will eventually pay off. A prerequisite for investments is to ensure that they do not pose a risk to financial stability, and this is guaranteed by the integrated group structure. Investments are made when it can be assumed that the capital employed, inclusive of a reasonable return, can be recouped through infrastructure charges over the long term. It is therefore a question of the financial viability of projects. This ensures that all necessary and economically reasonable investments are carried out. Investments in infrastructure are no different from investments in other business areas – and

> Public funds do not have to be recouped through revenues, nor do they create a right to a profit share.

In recent years, the infrastructure companies have greatly raised their efficiency, which played a major part in improving the financial situation. At the same time, there was only a moderate increase in infrastructure charges.

just as a poor earnings situation does not have a negative impact on investments, neither do profits mean that higher sums are invested. This means that any profits paid out to the owner, in this case DB AG, do not reduce investments in infrastructure because they, too, do not lead to any changes in investment requirements and/or decisions.

No profits from public funds

Allegation: *DB uses public funds to generate illegitimate profits.*
The public funds that are provided are not used to generate profits. These state funds essentially refer to investment grants provided by the Federal government in discharge of its constitutional obligation as guarantor of Federally owned rail infrastructure, which cannot be operated cost effectively exclusively on the basis of the infrastructure charges paid by the users. The DB infrastructure companies receive public funds as a contribution to those investments which cannot be funded on a viable economic basis.

The DB infrastructure companies are obliged to use every single euro provided from public funds for its intended purpose.

These public funds do not appear in the companies' balance sheets, hence there are no depreciation costs which have to be recouped through infrastructure charges. Nor are these grants included in capital employed, so that the provider has no right to demand a return on theese funds. The right to a share of the profits results solely from those investments which are financed with the company's own financial resources, and thus has nothing to do with public funds.

The strict distinction between state and corporate funding ensures that the profits made by the infrastructure division do not include any public funds which are remitted to the holding under the terms of the profit transfer agreement. Article 8 (4) of Directive 2012/34/EU prescribes that infrastructure managers have to cover their own costs, including the costs of capital. They also have to satisfy this requirement even if they do not receive State funding. Without these public funds, the infrastructure manager would be forced to recover its costs, inclusive of a reasonable return on capital employed, solely through infrastructure charges. Accordingly, earning a profit does not depend on whether or not any public funds were paid.

DB infrastructure companies are not misappropriating public funds

Allegation: *DB misappropriates public funds which are intended for infrastructure by using these funds for its transport companies.*
There is no possibility of misappropriation of public funds. The DB infrastructure companies are obliged to use every single euro provided from public funds for its intended purpose. The release of investment subsidies is linked to strict conditions for the specified purpose. If the investment refers to new-build or upgrading measures, every single detail of the project concerned is defined exactly and the funds are released only when the corresponding invoice documentation is submitted. Any funds which have been promised are not paid out if the planned project is not carried out within the given period. In the case of replacement investments, which are intended to

maintain the condition of the existing infrastructure, the former project-based individual auditing procedures meanwhile have been replaced by a less bureaucratic instrument, the Performance and Financing Agreement. But although they no longer have to specify the individual project, the companies of course still have to provide exact documentation that they have used all the funds received for investments in precisely defined investment categories. Compliance with all the above mentioned requirements is monitored by the Federal Railway Authority (Eisenbahn-Bundesamt, EBA) as well as an auditor appointed by the Federal government. The infrastructure companies also have to prove, on the basis of clearly defined key performance indicators which are subject to punitive sanctions, that they provide a high and continuously improving level of infrastructure quality.

Infrastructure companies' right to profits

Allegation: *Rail infrastructure companies which receive state subsidies have no need to earn profits. Break-even is totally satisfactory.*

Earning reasonable returns on employed capital is absolutely undisputed in all regulated sectors – regardless of whether the capital is provided by private or public investors. The option of earning returns which are in proportion to the risk of the capital employed is essential if private capital is to be found for at least part of the investments in infrastructure. The alternative would be for the Federal government to provide the entire financing for all infrastructure investments, in which case the DB infrastructure companies would have no tied capital, no debts, no depreciation and consequently no right to a profit. The past has shown that such a scenario is unrealistic. In light of

2.14 % per annum

was the level of the annual increase in infrastructure charges between 2005 and 2012.
Over the same period, the producer price index rose by 2.41% per annum.

There are different kinds of profit

When it comes to the profits made by infrastructure companies, figures are bandied around with scant regard for their definitions. As a fundamental principle, it has to be distinguished between EBIT, i.e. earnings before interest and taxes, and the sums which are transferred as part of the compensation for profits and losses. The transfer of profits is based on the operating results stated in the individual balance sheet of the company concerned, adjusted if necessary to reflect any extraordinary results. Amongst other things, the interest on borrowed capital is deducted before profits are transferred to the holding. The EBIT, on the other hand, is presented in the annual financial statement for the Group. The EBIT serves as the basis for economic governance of the business units, but is not the same as the profit which is transferred to the Group, which results from the individual balance sheets of the different companies. EBIT and transferred profit differ essentially because of the high level of borrowed capital employed for infrastructure: in 2012, the underlying EBIT of DB Netz AG was EUR 878 million, but DB Netz AG transferred a profit amount of only EUR 197 million to DB AG. Further differences result from different forms of accounting: the individual balance sheet of DB Netz AG is prepared in accordance with the provisions of the German Commercial Code (HGB), whereas the annual financial statement for the entire DB Group is drawn up pursuant to International Financial Reporting Standards (IFRS).

the poor experience with Deutsche Bundesbahn, which was run as a public authority, the German transport policy adopted in the course of the rail reform deliberately decided to create incentive for private investment and enable users to participate in the financing. Now, almost 20 years after the rail reform, the chosen path has proved highly successful

To put profits in the correct frame of reference, they first have to be seen in relation to the capital employed.

in terms of the sustainable financing of rail infrastructure: since 1994, the DB Group has contributed an average of approximately EUR 1 billion per annum of its own funds towards financing investments in infrastructure and thus relieved pressure on the public purse, or respectively the taxpayer. These investments funded with DB's own capital do not differ in any way from investments in other non-subsidised sectors. In both cases, the investments have to be recouped. Renouncing the right to earn a profit and to transfer profits to owners or investors would be tantamount to infringing the constitutional obligation to manage infrastructure companies as viable business enterprises. No private investors would be willing to put up capital if they had no opportunity of earning a reasonable return.

The minimum level for a return which is in proportion to the risk is the cost of capital for investments which the company has funded. On the one hand, this refers to the cost of borrowed capital, i.e. interest on loans. However, it also refers to the costs generated by the invested equity capital. In that respect, DB is no different from other business enterprises or private savers: anyone who puts his money in a savings account or invests in bonds expects to earn interest, as the money is tied and no longer available for other purposes. Profits on capital employed always reflect the risk that has been undertaken. For example, it is normal that the interest paid on a standard savings account is lower than the interest on corporate bonds, which entail a higher risk. If a company were to state "breakeven" as its target return, the logical consequence would be that risks – such as value adjustments or fluctuations in the economy – would be assumed by the state or by the customers. If DB earned a return of zero per cent, after adjustment for inflation it would actually lose money and corporate assets in real terms – losses which the state or respectively the taxpayer would ultimately have to shoulder.

Infrastructure companies do not earn excessive returns

Allegation: *The profits earned by the infrastructure companies are excessively high. This is at the expense of competition.*

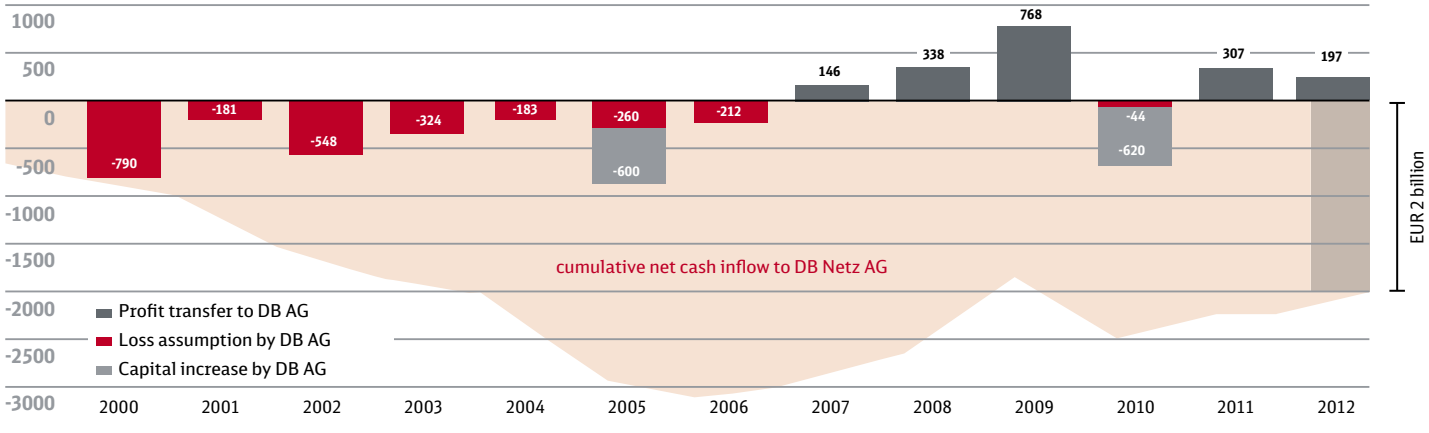
Infrastructure companies are legally prohibited from earning profits beyond the scope of financing their activities. As the competent regulatory authority, the Federal Network Agency also monitors whether the infrastructure companies demand prices which could lead to excessive returns. If that is the case, the Agency can contest these prices.

There are two fundamental errors in the debate on the "high" profits earned by the DB infrastructure companies: firstly, it considers only the absolute level of the profits and secondly, it confuses two different earnings parameters. To put "profits" in the correct frame of reference, they first have to be

Investments in infrastructure are not different from investments in other business areas: It has to be possible to recoup the capital employed, inclusive of a reasonable return.

seen in relation to the capital employed: while a sum of EUR 10 can be regarded as a lucrative return on an investment of EUR 50, it would be viewed quite differently if the investment had amounted to EUR 1000. The same applies to the DB infrastructure companies: in absolute terms, the EBIT of DB Netz AG (i.e. earnings before interest and taxes) of almost EUR 900 million appears high. However, when that figure is considered in proportion to the capital that had to be employed to generate these earnings – in the case of DB Netz AG, just under EUR 18 billion – the supposedly high "profit" appears in a different light as it is actually equivalent to a return of 4.9 per cent on the capital employed. It is important to note that this EBIT figure does not refer to the profit transferred to the holding. A part of the capital employed was funded with borrowed capital, on which DB Netz AG had to pay interest. In 2012, these interest payments amounted to more than EUR 400 million. The profit transferred to DB AG is therefore substantially lower, and reflects the interest on equity capital. In 2012, DB Netz AG transferred a profit of less than EUR 200 million to the DB Group. That figure includes neither the taxes payable by DB AG, nor the dividend of EUR 525 million to be paid to the Federal government.

DB strengthens infrastructure with a total cash inflow of EUR 2 billion to DB Netz AG
(EUR million)



Source: DB

Interview Jochen Homann, President of the Federal Network Agency, talks to Professor Christian Kirchner of Berlin's Humboldt University.

»The system as a whole has to be coherent«

The European regulatory framework for the energy and rail sectors – a comparison of the effects of these frameworks on the associated markets in Germany.

Prof Kirchner: In January, you gave a paper at the symposium on "Competition & Regulation in the Rail Sector", which I have organised in conjunction with Deutsche Bahn since 2007. As you are an undisputed expert on the energy market, we were particularly interested to hear how the European regulatory framework for the energy sector has affected the markets in Germany, as the energy market has been regulated for longer than the rail market.

J. Homann: Legislation in Germany is increasingly determined by Europe. This statement is normally made with a plaintive undertone, although it actually reflects the thoroughly welcome fact that national borders are disappearing and more and more, we see ourselves as Europeans. This increasing integration of our continent has a great influence on our infrastructure. The electricity grids are meanwhile so closely linked that problems in one national grid impact on the stability of many other national grids; this was particularly evident after the power cut in Emsland in 2006. Transport, too, is increasingly handled across national boundaries, as this is required by global trade and also to cope with the mobility of the European population.

Prof Kirchner: The instrument chosen by Europe in response to these requirements is liberalisation, opening up the markets. So do you believe the scope afforded by liberalisation is of primary importance?

J. Homann: Yes, for customers, but also – and in particular – for newcomers to the market who now have more freedom and flexibility to offer innovative products. The liberalisation of rail transport is more advanced in Germany than in many other countries in Europe. We are one – or perhaps even two – steps ahead of some others in this respect. Competition has made rail a more attractive transport mode in Germany. Competitive tendering in the regional transport markets is already bearing the first fruits. That is why I would like railway undertakings to have the opportunity to take part in tender procedures in other European countries where that is not yet possible. The competition conditions in that respect should be harmonised in the Member States.

Prof Kirchner: The European Commission is planning to take its time on that issue. In the draft for a fourth railway package, it proposes opening up the rail passenger transport markets in 2019 at the earliest.

J. Homann: I am pleased to hear that the Commission is proposing full liberalisation of the rail transport markets. However, there is also talk of restricting passenger transports if they compromise "the economic equilibrium of transport provided under a public service contract". This restriction already applies to international transports and is now to be extended to cover all passenger transports. This would be a step backwards for the German rail passenger market. On the other hand, it is difficult to imagine that a non-subsidised newcomer could pose any threat whatsoever to a railway undertaking whose operations are subsidised. That is why there should be no restrictions for competition. All railway undertakings should have the chance to seek and find their own markets and niches, without any restrictions or any preliminary examination by the authorities. After all, that is really the strength of a free market – and something we should not be prepared to forego.

Prof Kirchner: In this matter, the European Commission is prepared to make several concessions to those countries which have not yet fully liberalised their passenger transport markets. How-

[Jochen Homann]

"We should avoid digressing into the 'hows' and 'whethers' of unbundling."

ever, it is less accommodating to those Member States which have integrated or partially integrated railways. You are undoubtedly thoroughly familiar with this unbundling debate from the energy market.

J. Homann: It's true, this does remind me of the debate that was conducted about electricity and gas grids some years ago. I can vividly remember the Council of Energy Ministers in Luxembourg in 2009. The discussion in the energy sector ended with the admission of two alternative models alongside full ownership unbundling. I have always been sceptical as regards ownership unbundling in the energy sector and am equally sceptical when it comes to rail. Ownership unbundling is not a cure-all for the problems of competition and, as we have learned from experience in the electricity market, also poses new questions: Does an unbundled network operator which is not backed by an integrated group have an adequate capital basis? Is there a risk of insufficient communication of information between network operators and network users?

Prof Kirchner: Can you give me some examples of these problems?

J. Homann: You are no doubt aware that one of the four transmission system operators in the electricity sector has difficulty in funding the connections to the offshore wind farms. On the one hand, this is because the unbundled system operator is far smaller – also in respect of its equity capital – than the former vertically integrated group. On the other hand, this is also because consistent implementation of the ownership unbundling model closes the doors to many investors. It has become clear that incisive intervention can always trigger problems that were perhaps not sufficiently considered at the start of the process.

Prof Kirchner: That opinion was also put forward by the renowned energy expert Professor Brunekreeft of Bremer Energie Institut at the symposium in January, who also pointed out the significantly higher coordination work required in this connection.

J. Homann: That is correct. In the energy sector, we have seen a sharp rise in the effort required for coordination between the different players. There are many reasons why the power supply system has become more complex, but the main cause is undoubtedly the sharp increase in the share of renewable energy, which is difficult to plan. Ownership unbundling has also led to a level of complexity which has become a challenge for the operation of a reliable power grid.

Consider the following example: After ownership unbundling, the former integrated network user is still by far the largest customer for this network. No business enterprise – including an unbundled company – can afford to ignore the wishes of its key customer. In other words, legal regulations concerning ownership are no use against the potential for discrimination in such cases.

Prof Kirchner: And you say that if ownership unbundling does not help in such cases regulation helps instead.

J. Homann: Yes. Adequately designed regulation makes it impossible to give preferential treatment to certain network users. We have acquired comprehensive experience of this at the Federal Network Agency: in that capacity, we prescribed the market regulations for those parts of the energy markets that could be prone to discrimination. The scope for granting unilateral privileges has shrunk to practically zero and any infringement of the regulations is severely penalised. What we as regulatory authority

At the 7th symposium on "Competition & Regulation in the Rail Sector", there was critical discussion of whether the energy sector and its regulatory measures can actually serve as a role model for the rail market, as envisaged by the Commission.

can achieve is to introduce adequate market regulations which ensure that the operator's strategy is geared to the operation of a network which is open to competition. The network, network access regulations and network charges should not be tailored to one individual network user, but enable network access for all customers. It goes without saying that it is more difficult to implement these regulations at a company which is fully integrated. But if regulation is properly designed, it can indeed be enforced.

Prof Kirchner: In your presentation at the symposium, you pointed out that unbundling regulations are nevertheless necessary, below the threshold of complete separation of the network. In the rail sector, informational, accounting and organisational unbundling are central elements of effective competition.

J. Homann: Other modules are efficient and market-friendly access regulation and regulation of charges that is aimed at efficiency, that means first and foremost an obligation to have infrastructure and station charges approved. We should avoid digressing into arguments about the "hows" and "whethers" of unbundling, as this could distract us from the other important aspects of regulation. It is often – perhaps even mostly – these measures which can be relatively easily implemented that lead to good results in terms of competition. The system as a whole has to be coherent.

Prof Kirchner: Amongst other things, you mean that if we forego ownership unbundling, regulation has to be strict – although the adjective "strict" is, of course, open to widely differing interpretation.

J. Homann: Let me concentrate on a critical item of this regulatory debate: the charges and charging systems of the infrastructure managers have a decisive effect on the chances of competitors. For a regulatory authority the aim always has to be to achieve charges on a level which would emerge as the result of effective competition.

The present rail regulatory legislation does not as yet reflect the idea of charges which are based on competition. This may be because the railways have traditionally been classified as providers of a public service and from their position as a permanent recipient of state funding. However, a changeover to a system which focuses on efficiency would be an important part of effective regulation.

Prof Kirchner: There is still dispute among the different stakeholders in the market about the concrete form such regulation should take. However, I believe that everyone concerned agrees that liberalisation can remain successful for the development of transport markets only if sensible rules are in place.

J. Homann: There is no alternative but to introduce new statutory regulations. And because Europe meanwhile plays an increasingly important role not only for national legislative procedures, but also for the German transport business, we should all join forces to achieve a viable European regulatory framework, but without relinquishing the pioneering role of Germany in the liberalisation process.

[Professor Kirchner]

"Liberalisation can remain successful for the transport markets only if sensible rules are in place."

Incisive intervention can trigger problems that were perhaps not sufficiently considered at the start of the process.

Regulatory policies The railway markets were analysed in detail last year. The focus was on the international search for the right railway model for the future.

Changes in regulation on the horizon

The regulatory framework has to be adjusted in line with the needs of the rail mode. These adjustments must be carried out in a difficult economic environment.

In 2012, the recast of the first European railway package was completed after two years of intense negotiations and now has to be transposed into national law by 16 June 2015 at the latest. The legislation still grants railway undertakings the right to choose their own model, as proposals for the separation of infrastructure and operations were rejected by the majority of the European Council and the European Parliament. In return, however, the recast includes stricter regulations on transparency and wider scope for monitoring by the national regulatory authorities. Although numerous adjustments will have to be made, German railway law has already implemented the essential requirements of the recast in respect of effective regulation and efficient performance monitoring. For example, the recast demands effective monitoring of financial flows, which is already ensured in Germany. The same essentially applies to the German regulatory authorities, which satisfy the standards of the recast in terms of independence and competences. Minimum standards will apply to contracts for infrastructure financing, but these are already observed in the Performance and Financing Agreement negotiated between the Federal government and Deutsche Bahn.

Necessary legislative adjustments in Germany after adoption of the recast

German legislation will have to be adjusted to transpose the detailed specifications on infrastructure charging contained in the recast. The changes refer to the following areas in particular:

- Charges for trains equipped with ETCS: infrastructure managers are obliged to offer lower charges for trains equipped with ETCS on certain corridors. In so doing, the Commission aims to create incentives for fitting trains with ETCS.
- Charges for reserved infrastructure capacity: infrastructure managers are entitled to levy an appropriate charge for infrastructure capacity that has been allocated but not actually used. This is intended to create incentive for the efficient use of infrastructure capacity.
- Cross-border cooperation between infrastructure managers: the regulations concerning cross-border cooperation between infrastructure managers are to be extended and infrastructure managers will be obliged in future to cooperate when setting infrastructure charges. It is doubtful whether such a regulation is actually necessary: since 2004, the members of the association RailNetEurope have already provided a platform for multinational cooperation between infrastructure managers and infrastructure allocation authorities which also covers questions of infrastructure charging.

Other adjustments will be required to the legislation governing service facilities, as the catalogue of service facilities has to be enlarged. For example, the provision of suitable premises for ticket sales at stations is now obligatory and the catalogue also has to include a list of the available aids and the provision of fuels. Despite this extension of the regulation of service facilities, the Commission still upholds the "essential facility doctrine", which states that operators of service facilities are entitled to refuse access provided a viable market alternative is available. However, it has to be ensured that transports can be performed on economically acceptable conditions. The recast also contains new provisions governing the closure of service facilities. In future, the operation of a service facility has to put up for tender in the form of lease or rent if the facility has not been in use for two consecutive years. The charges for use of the facility must not exceed the cost of providing the service, plus a reasonable profit.

Controversial debate in the rail sector on new railway law

June 16, 2015

Deadline
for transposition of recast into national law.

In 2012, the Federal Ministry of Transport also presented a draft bill for the reorganisation of regulation in the rail sector. However, large parts of this bill have not yet been harmonised with the recast of the first European railway package. One important example is the cost-based regulation of charges: the European legislator deliberately decided against a purely cost-based regulation of charges. In contrast to other regulated sectors, the legislator gives priority to a viability-based charging system. The planned legislation is the subject of controversial debate in the rail sector, with most of the criticisms levied at two main subject areas.

The Federal government plans to introduce upper limits for infrastructure charges for a prescribed period of around five years, after which the ceiling for these charges will gradually be lowered every year. This approach is technically referred to as incentive regulation. The Federal Network Agency will also be entitled to specify reductions in equity contributions negotiated by the infrastructure companies as part of financing agreements for investments and maintenance.

As a result of the planned form of the incentive regulation, the official obligation to lower costs could mean that infrastructure managers no longer have sufficient funds to make all the necessary investments. Pursuant to the Performance and Financing Agreement concluded with the Federal government, investments and maintenance expenses sustained by the rail infrastructure managers are already governed by specific regulatory mechanisms. The design of the planned incentive regulation would mean double regulation of investments. The Federal Network Agency could enforce reductions without any regard for the provisions already agreed by the Federal government and DB in the Performance and Financing Agreement. If the investments agreed with the Federal government were deemed inefficient, additional costs would have to be saved. The planned incentive regulation therefore contradicts the ruling of the European Court of Justice of February 2013 on the first railway package. Amongst other things, this confirmed that the Performance and Financing Agreement already included indirect incentives for lowering infrastructure costs and that no further regulation was necessary. Moreover, it ruled that the infrastructure manager could not be obliged to pass on the cost reduction to the infrastructure users "even though it may not be able to charge the entire costs for the provision of the infrastructure."

The Federal government is furthermore planning to introduce the specific monitoring of abuse in connection with ticket sales, to be handled by the Federal Network Agency. This proposal could lead to the demand for Deutsche Bahn to provide sales services for all companies on the same conditions, even if the recipients are actually direct competitors of Deutsche Bahn. This would severely impact on competition, as it would completely negate incentive for innovations and investments. The ticket sales sector is undoubtedly an area which features numerous innovations, such as the sales channels for mobile tickets in which mobile phones are used as tickets. Moreover, ticket sales does not refer to an essential facility, as there are countless market alternatives. Sales activities therefore do not require regulation. Even the Monopolies Commission which advises the German government legislature in the areas of competition and regulation demands that regulation should be restricted to essential facilities. Furthermore, this planned regulation would go far beyond the customary scope of European regulation.

The ticket sales sector is an area which features numerous innovations (left). The Norwegian regulatory authority is a member of IRG-Rail (right: Norwegian Bergensbanen).

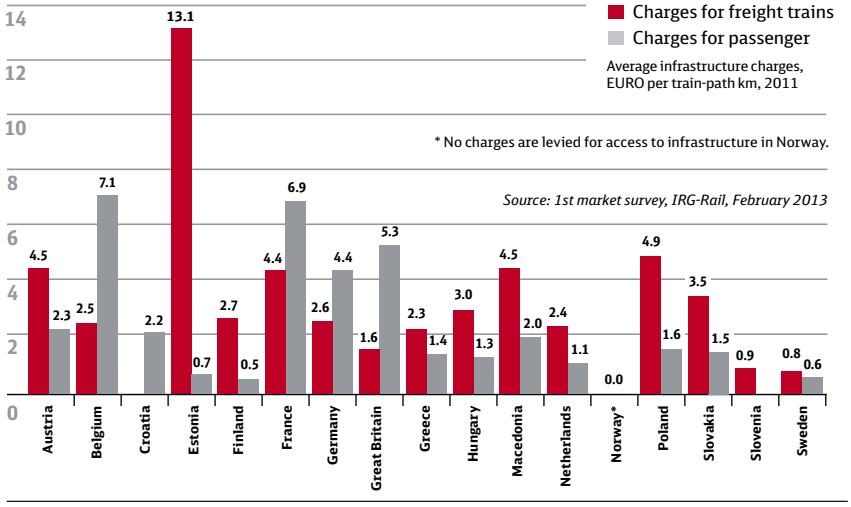
Market reactions to regulated charges

The corrective intervention of the Federal Network Agency in elements of the infrastructure charging system (ICS) and the station charging system (SCS) has had noticeable consequences in the market. The DB infrastructure companies had already warned of these effects in the course of the individual procedures. The Agency obliged the DB infrastructure companies to abolish certain charge elements (the regional factor in the ICS, the train length factor in the SCS), which it considered discriminatory. These elements, however, were intended to ensure that uneconomical regional lines and stations could nevertheless continue to be operated. The Agency's decisions have resulted in a reallocation of charges within the overall rail mode which has led to higher costs for regional rail passenger services in some Federal Laender and some client bodies. They are now confronted with high additional costs, running into tens of millions in some cases.

Civil courts examine infrastructure charges

The civil courts are meanwhile also critical of the regulated infrastructure charges, because although the charges for infrastructure and stations are monitored by the regulatory authority, under the present legal regime, they are subject to dual control by the civil courts. The civil courts believe that the regulatory supervision is not defined in sufficient detail and have therefore applied their own standards to the charging systems. However, the logic applied by the civil courts when examining the charges does not take into account the combined costing principle applied by DB Netz and DB Station & Service, which is in compliance with European law and intended to enable them to offer lines with low traffic volumes and peripheral stations at reasonable charges. Moreover, the cost-based monitoring concept of the civil courts also ignores the requirements of EU law. This unacceptable situation of permanent uncertainty about the validity of the charges has to be rectified by the legislator as soon as possible. It has to be clarified that charges which have been approved by the regulatory authority cannot subsequently be contested before the civil courts. Corresponding principles already apply in other regulated sectors, such as telecommunications.

Independent Regulators' Group Rail (IRG-Rail) compares infrastructure charges
(The proponents of an incentive regulation claim the German infrastructure charges to be unusually high. However, this view is not substantiated by the market survey of IRG-Rail.)



Setting the course for the European rail sector

In February 2013, the European Court of Justice confirmed that the German holding model is in conformity with the requirements of EU law. Before this, the Commission had presented its proposals for the fourth railway package.

[28-2-2013]

Ruling by EU Court of Justice

In the infringement proceedings against Germany, the court dismissed all points of the Commission's action.

In 2010, the European Commission initiated infringement proceedings against Germany, claiming that there were transposition deficits in the German rail sector. The principal allegations referred to the insufficient independence of DB Netz AG, the inadmissible specification of infrastructure charges, the lack of incentive for DB Netz AG to reduce costs and the inadequate powers of the regulatory authority (Federal Network Agency). On 28 February 2013, the European Court of Justice dismissed the action filed by the European Commission in its entirety.

Legal certainty for German holding model

This ruling by the Court of Justice confirms that Germany has correctly transposed the requirements regarding the independence of DB Netz AG from DB AG and that the German holding model conforms to EU law. Moreover, the ruling corroborated that the German legislator had fully transposed all elements of the EU requirements relating to infrastructure charges. The Court of Justice thus recognised that the German infrastructure charging system is compatible with EU law. In particular, it confirmed that in order to provide incentive for infrastructure managers to optimise infrastructure operation, the infrastructure charge can lie between a lower limit of the costs resulting from train operations and an upper limit which is equivalent to the total costs. Referring to the alleged absence of incentive to reduce costs under German law, the court clearly stated that the German legislator had fully implemented the requirements of EU legislation, pointing out that the multi-annual Performance and Financing Agreement contained effective incentives for reducing costs as well as indirect incentives for lowering infrastructure charges. In its action, the European Commission had also claimed that the Federal Network Agency did not have sufficient powers to become active unless a specific complaint had been filed. In reply to this accusation, the court established that EU law did not demand that national regulatory bodies had to be authorised to obtain information if they had no particular reason to suspect infringement. This decision by the Court of Justice provides legal certainty concerning the admissibility of integrated railway undertakings and thus ends a dispute which has been going on for years.

Legislative measures in Brussels have a decisive effect on the future of European rail transport. The European Court of Justice has confirmed that the German holding model is legally admissible, as are the German regulations on infrastructure charges, performance regime and the powers of the regulatory authorities.

Fourth railway package has been presented

On 30 January 2013, the European Commission presented the long awaited fourth railway package with which it aims to achieve complete liberalisation of the national rail passenger markets, to improve technical interoperability and to continue separation of rail infrastructure and operations.

The fourth railway package envisages full liberalisation of the national rail passenger markets as from 2019. Open access to the purely commercial rail passenger market may be restricted only if transports which are financed exclusively by the railways' own funds – i.e. purely commercial transports – pose a risk to transports which are provided as a public service obligation and therefore subsidised with public funds. At the same time, the introduction of compulsory tenders for public service transports as from 2019 is intended to promote competition. This will also be backed by better access to rolling stock. To achieve that objective, the client bodies which conduct the tender will be entitled to provide legal warranties for non-discriminatory access to rolling stock, for instance by procuring the vehicles themselves or by ordering the transfer of vehicles in case of a change of operator. Member States can also oblige all railway undertakings to participate in a shared multimodal information and ticket sales system.

DB endorses the plans for full liberalisation of the markets and a competitive regulatory framework for public service transports. However, in view of the late target date for market opening and the transition period up to 2023, the new legislation is unlikely to generate new impetus for competition in the European rail passenger market in the near future. One positive aspect is that the proposed Directive envisages a combination of open access and transports which are provided as a public service obligation. This market model has proved successful in Germany. Nevertheless, the option of restricting market access for purely commercial transports in order to protect public service transports must not be used as a tool to close off markets to newcomers. It is dubitable whether the mandatory legal regulations proposed by the Commission concerning the availability of rolling stock will actually improve the framework conditions for transports provided under a public service contract. A study on the funding of rolling stock in the regional rail market conducted by the consultants SCI in October 2012 pointed out the disadvantages that would arise if the client bodies were to assume responsibility for rolling stock. Instead of regulations such as obligations to transfer rolling stock, SCI recommends central coordination of tender procedures and vehicle procurement. This would lead to a standardisation of the vehicle fleets and consequently improve the capacity for using the vehicles again in other rail networks. It would enable a secondary market to evolve and ultimately improve vehicle availability for all railway undertakings over the long term.

Focus on a technical regulatory framework

In the interests of improving technical interoperability, the European Commission proposes strengthening the powers of the European Railway Agency (ERA). To date, the ERA has primarily drawn up recommendations and statements. In future, it is to be permitted to issue binding decisions on the granting of safety certificates, on vehicle licensing and the review of new and existing national regulations. The aim of this legislative initiative is to achieve standard application of the legal requirements relating to safety and interoperability in the Member States.

Liberalisation

The Commission does not plan to open the national rail passenger markets before 2019.

The national rail passenger transport markets will not be fully opened until 2019. Tender procedures will be compulsory for public service contracts, but restrictions will be permissible. The present differences in international transport law cause massive trade barriers and costs. These rules and regulations have to be harmonised.

11.000

technical standards

are currently in force in the EU.

Efficient technical and administrative licensing processes are a crucial factor for the future development of rail transport in Europe, especially in terms of intermodal competition. The Commission's objective is therefore to be endorsed. There are currently more than 11,000 different technical rules and standards in force in Europe, so that licensing procedures for rolling stock are extremely time-consuming and expensive. Harmonised Europe-wide licensing procedures have long since been in place for the road and aviation sectors. If rail is to succeed in the face of intermodal competition with road and air, it is essential to make the licensing procedures in the rail sector faster, more reliable and cheaper (see next chapter).

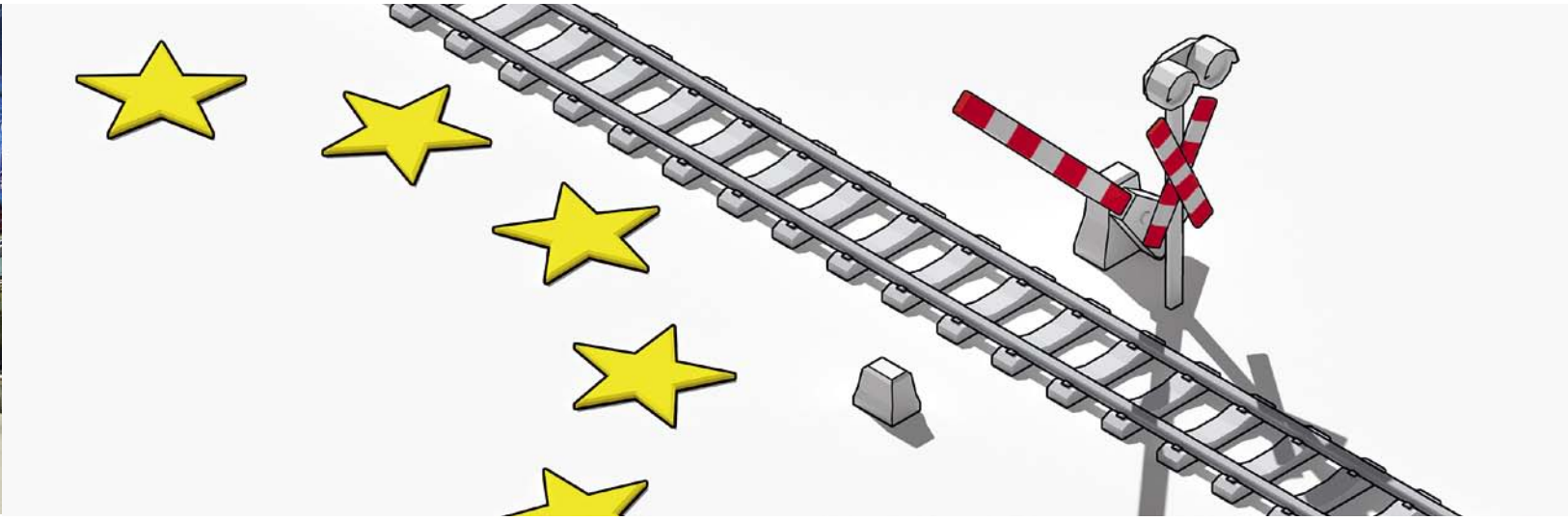
Commission advocates further separation of infrastructure and operations

In the fourth railway package, the European Commission proposes the full separation of infrastructure and operations as the standard scenario for railway undertakings in Europe. An exception is to apply to those Member States which have an integrated structure at the time when the revised EU Directive enters into force, such as Germany, Austria or Italy: these Member States will be permitted to maintain their integrated structure provided they satisfy strict conditions, which include in particular a ban on the transfer of profits from the infrastructure manager to the holding, the prohibition of all "shared services", banning the holding from exerting its influence on any functions of the infrastructure manager, such as investments and maintenance, prohibiting contact between the employees of the infrastructure manager and other corporate divisions, and a compulsory cooling off period when employees wish to transfer from one division to another. The European Commission is to be given far-reaching powers to monitor compliance with these requirements. Until such time as the European Commission establishes that the requirements have been satisfied, or if it establishes that although the requirements are satisfied, they are nevertheless not sufficient to ensure fair competition, the Member States will be entitled to restrict access for integrated railway undertakings. Member States which have already elected to separate infrastructure and operations will not be permitted to reverse this decision and reinstate an integrated rail structure. In view of the current requirements for integrated rail models and the latest developments in rail transport, there is no plausible basis for the introduction of further legislation governing the separation of infrastructure and operations:

Firstly: EU law already demands the strict independence of all infrastructure functions which impact on competition. In its ruling of 28 February 2013, the European Court of Justice not only confirmed that the German legislator had formally transposed Community law, but also that the DB holding model was permissible and that DB AG and DB Netz AG satisfied the European requirements regarding independence.

Secondly: The provisions of the recast of the first railway package, which entered into force on 15 December 2012, contain comprehensive changes relating to access regulation, the regulation of charges, the transparency of financial flows at railway undertakings as well as multiannual contracts which specify the framework conditions for infrastructure financing. The new provisions of the recast have to be transposed into national law by all Member States no later than June 2015. The next step has to be an analysis of the consequences of the recast in practice.

Thirdly: The Commission's plans to intervene in the organisational sovereignty and ownership rights of Member States and railway undertakings in-



volve high economic risks. Recent studies like for example the EVES study (see page 51) have proved that the costs of enforced separation of the railway undertakings in Europe lead to additional expenditure of approximately EUR six billion per annum. An increase in the volume of rail traffic could raise these costs to as much as EUR 14.5 billion per annum.

Fourthly: The latest developments in several European countries show that the structural analyses in Europe are still in a state of flux. In the United Kingdom, for example, in response to the exorbitant increase in the costs of separate infrastructure management, there is now closer cooperation between infrastructure managers and railway undertakings. The current debate on the reform of railway organisation in France has led to demands for the amalgamation of infrastructure and operations under one holding. The abolition of the choice of model as envisaged by the fourth railway package could thus prevent countries such as France or the United Kingdom from optimising their rail modes on the basis of the latest research findings. Moreover, the entire public transport sector in Germany as well as the umbrella organisation of European railways all recommend that EU law should continue to permit the Member States the choice of model (see also position papers "Demands of the Association of German Transport Undertakings (VDV) regarding the Organisation of Railway Undertakings in Europe" of November 2012 and "Structural Models for Europe's National Rail Sectors" published by the Community of European Railway and Infrastructure Companies (CER) in December 2012). The proposal that the European Commission can allow Member States to deny integrated railway undertakings access to markets if they fail to satisfy separation requirements is in direct conflict with basic European liberties and the Commission's own liberalisation objectives.

Impetus for international transport law to enhance cooperation between the EU and its neighbouring regions

It would be easier to offer international rail transports if the railways did not have to satisfy the requirements of two different legal systems. In the European area, they have to comply with the provisions of COTIF/CIM (Convention concerning international carriage by rail/ Uniform Rules concerning the contract for international carriage of goods by rail), in Eastern Europe/Asia, with the provisions of SMGS (Agreement on International Goods Transport by Rail).

This coexistence of two different legal regimes constitutes a serious barrier for the increasing global rail transports on the trans-continental corridors between Europe and Asia. Uniform international regulations mean better transparency and legal certainty for customers and enable transports to be handled more quickly and inexpensively on the basis of standard contracts and transport documents. The railway undertakings have already taken matters into their own hands and drawn up the single consignment note CIM/SMGS, which is an important step in the right direction. The next move has to be to draw up general conditions of carriage for the Eurasian corridors. However, it is not sufficient to tackle this matter at company level. In view of the frequently close connections between railways and governments in many countries, especially in Eastern Europe and Asia, unequivocal political support is essential to ensure that such contractual agreements become universally accepted. It is also important that the national governments promote harmonisation at legislative level and see these processes through to the end. Legal harmonisation in the international rail sector – also beyond the borders of the European Union – is therefore an important item on the political agenda of the international organisations.

The European Commission accompanies and supports the work of the United Nations Economic Commission for Europe (UNECE) to harmonise transport law in the international rail sector. At the end of 2012, the commissioned experts reached a consensus on the draft political declaration to be issued by the heads of government. In the declaration, which was then signed on 26 February 2013, the ministers of the UNECE Member States officially pledge to begin work on the harmonisation of law in the international rail sector. The political declaration invites the railway undertakings to draw up contractual provisions for Eurasian transports in the near future as a parallel and supplementary measure.

Licensing problems endanger competitiveness of rail

The railways are threatened with serious intermodal competitive disadvantages resulting from problems with the licensing, delivery, availability and operation of rolling stock. Effective legislation is a crucial basis for improvements.

Delays in the delivery of urgently required new rolling stock from almost all rail manufacturers are affecting the railway undertakings and therefore rail customers. The welcome growth in passenger transport figures has consequently encountered major problems: in addition to delays in the delivery of new vehicles such as the ICE 3 Velaro D trains (Class 407), the authorities have refused to grant licences for certain vehicles and the railways themselves have been unable to accept several major classes of rolling stock. The competitiveness of the rail sector in Europe is at risk. Politicians, whether national or European, can play a major part in improving the status quo. The plans to eliminate technical and administrative barriers and strengthen the European Railway Agency as part of the fourth railway package are crucial elements for doing so. The licensing procedures in particular present grave problems for the railways: the licensing authorities have not only imposed strict operating restrictions owing to serious technical problems, but have occasionally completely banned operations. In many cases, they have ordered retesting of the rolling stock. Moreover, the licensing procedures are extremely time-consuming and complicated. As a result of insufficient trust not only between the safety authorities of different EU Member States, but also between the authorities, certification bodies and experts within individual States, some tests are conducted twice or even three times. This causes delays and additional costs running into millions and ultimately means restrictions in the transport services that are available and the need to deploy substitute rolling stock of inferior quality.

The railways have only little influence on this situation. Changing to a different supplier is frequently not an option. Railway undertakings are tied to a certain provider, as most spare parts are available only from the original vehicle manufacturers, who are moreover unwilling to disclose the interfaces between software and hardware components. This obstructs cost reductions, quality improvements and innovations, ending in serious problems as regards maintenance, especially if the vehicles are deployed abroad.

Some of these problems are rooted in the past and are actually homemade. Before the rail reform was launched in Germany in 1994, the state-owned railways were involved in virtually all rail processes: they cooperated in the development and manufac-

Greater standardisation of rolling stock helps to lower costs, improve quality and promote innovations. Simplified national and European licensing procedures can avoid double and treble testing and save millions of euros.

ture of rolling stock, were the customers who ordered the finished vehicles and simultaneously acted as licensing authorities. The rail reform and liberalisation radically changed the allocation of roles and the task of vehicle licensing was transferred to public authorities. As a consequence of the liberalisation process, DB is now just one of many customers who place orders for rolling stock.

The different transport modes have different industrial processes

Purchasers in the rail sector order mainly individually designed rolling stock and it is the norm for manufacturers to design new series from scratch. Because of the highly individual nature of demand, which is heightened in some cases by significant differences between the infrastructure in the individual countries in Europe, there is comparatively little standardisation in the production processes, which in turn means high one-off investment costs and high unit costs. The required development work and development costs are accordingly substantial. As a general rule, the rail industry does not begin with the development work until the order has been placed, which leads to the problem that new vehicles are developed before any experience acquired during operation can be taken into account in series production. Hence, rail vehicles have frequently not had the chance to "mature" sufficiently when delivery begins and have not been developed to the necessary extent to ensure smooth operations. As a consequence, the vehicles are not granted the necessary licences or the railway undertakings themselves are unable to accept the vehicles. Once the rolling stock has been licensed and accepted, a number of teething troubles first have to be resolved at considerable expense when the vehicles first go into operation. In some cases, the operating licence is subsequently restricted again or even withdrawn when the vehicles are deployed because of defects which emerge during operations. This leads to time-consuming and expensive inspections and penalties for the railway undertakings and rail industry.

Following the lead of the aviation and automobile industries

The aviation and automobile industries have opted for platform and modular production concepts. In response to high costs and competitive pressure, both these industries raised the degree of standardisation at an early stage. The automobile industry in particular can look back on decades of experience of these standardised production processes.

Airlines nowadays begin the order process with a basic model for which they choose certain inputs from a catalogue. Some of these inputs are compulsory, such as brakes, undercarriage and avionics. Others, such as in-flight entertainment systems, are optional. While the manufacturers are responsible for initiating the development of a new aircraft, the different airlines and licensing authorities are involved in the development and production processes at an early stage in the role of "Customer Focus Teams". During this process, new developments undergo extremely intensive trials in the form of virtual tests and 3D simulations.

The framework conditions in the automobile industry are different, as the manufacturers have to cater for a very high number of different customers. In order to satisfy this individual demand, they have long since opted for what is known as the "Lego principle", which means that standardised vehicle platforms are combined with standardised modular elements. This not only results in lower production costs as well as better and more dependable product

[Lego principle]

A production method which has proved successful in the automobile industry

The industry benefits from low production costs as well as better and more reliable product quality. This method simultaneously permits a high degree of product individuality.

Action is urgently required to prevent rail from suffering from beeing disadvantaged in intermodal competition. At the end of 2012, high-ranking representatives of the railways, railway industry, politics and aviation discussed the spevcific need for action at a symposium entitled "Need for change in rail sector processes – learning from other transport modes".

quality, but also enables a high degree of product individuality and product diversification. The automobile industry has succeeded in lowering its production costs not least by disclosing the interfaces for standardised components at an early stage and thus promoting genuine competition between the suppliers involved in the process.

Need to reform licensing procedures

The automobile manufacturers themselves are largely responsible for ensuring compliance with legal and technical requirements. Type approval issued in any Member State is automatically valid in all other Member States. All new cars produced in the EU come with a certificate of conformity from the manufacturer which includes type approval as well as data for the specific vehicle which is entered by the manufacturer. This data is then included in the national certificate of approval.

In the aviation sector, the European Aviation Safety Agency (EASA) is responsible for ensuring a high uniform safety standard in Europe. It issues type certificates which are binding upon all EU Member States. National authorities, such as the Federal Aviation Office in Germany, deal with individual certification matters on behalf of EASA. A certificate issued by a national aviation authority on behalf of EASA is automatically valid in all EU states. Certification is based primarily on the test reports, inspections and declarations by accredited or certified bodies. The authorities themselves do not conduct in-depth tests, but are involved in the development and construction of the aircraft at an early stage.

In the rail sector, vehicles still have to be licensed in each Member State in which they are to be deployed. The European Railway Agency (ERA) does not have any powers like those of EASA. Multiple testing of the same vehicles is therefore still common in Europe, despite individual agreements on mutual recognition of vehicle licensing. This causes unnecessarily high costs, also seriously delays the deployment of rolling stock in other countries and constitutes a serious administrative market barrier for all railways in Europe.

Potential approaches for railways, industry and political decision-makers

The railways have to change their ordering practices and establish a genuine customer-supplier relationship with the railway industry that is based on trust. This also means that in future, the railway undertakings should give the industry only functional target requirements and then leave it the necessary freedom to develop the vehicles within a fixed cost framework. The railways and also the client bodies should instead increasingly order standard products or technologies which have already been tested and have proved successful in operation. Completely new developments – especially in small quantities – should only be ordered in exceptional cases.

The railways should contribute their expertise in questions of operations and maintenance to an effective knowledge transfer cycle with the railway industry. The railway undertakings and railway industry should jointly endeavour to achieve at least Europe-wide standardisation of the requirements for new vehicles, vehicle upgrades and maintenance. In the interests of reducing manufacturing and maintenance costs and improving product quality, the rail sector should aim to adapt its ordering practice, within the requirements of competition law, with the objective of achieving standardisation, common standards, regulations and specifications.

ERA

the European Railway Agency

has to be strengthened.

With the help of new powers, the ERA could render multiple testing superfluous. This would save costs and accelerate the deployment of trains in other countries.

The railway industry should see itself to a greater extent than before in the role of independent product developer and provider of finished, mature products with a view to delivering to a Europe-wide product market. In line with the automobile and aviation industries, it should consistently aim for platform and modular production methods, which could significantly reduce costs and improve quality at the same time. In order to promote competition between the different suppliers and to improve and stabilise product quality, the railway industry should increasingly be willing to disclose its interface standards. More than before, it has to regard its prime task as the promotion of standardisation and generally the search for inexpensive, innovative and good quality solutions for its customers. It is also extremely important to aim for more standardisation of spare parts. Orders for larger quantities of spare parts would entail fewer one-off costs for their development and production. Moreover, this would significantly reduce the costs of inventories and logistics, greatly simplify maintenance in other countries and substantially improve the worldwide marketability of railway technology.

Elements of effective legislation at European and national level

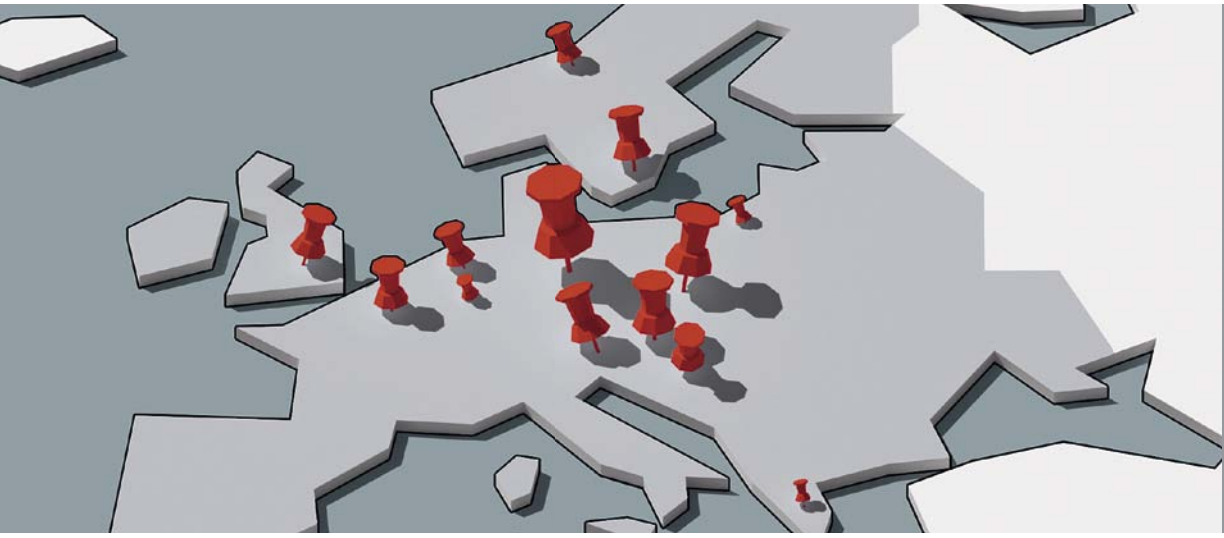
The fourth railway package is an opportunity for improvements. The question of licensing plays a key role for the development of competition in the rail sector. The structure of the rail markets, which is currently the focus of debate, is less important for their ongoing integration than the elimination of technical and administrative barriers. In future, the ERA should be the central element of a European licensing organisation for rail vehicles, should endeavour to abolish unjustified individual national regulations and ensure the standard interpretation of EU requirements in the technical sector. With a view to promoting the Europe-wide interoperability of rolling stock the ERA should encourage application of the principle of mutual recognition by the national licensing authorities. In line with aviation, the ERA should be vested with primary executive powers to issue licences which are valid throughout Europe.

As regards technical harmonisation, the ERA should without exception conduct a cost-benefit analysis and pursue only measures which improve the competitiveness of the railways. The European Commission and ERA should support standardisation activities in the rail sector, for instance the establishment of a transparent selection process for standardisable spare parts, coordinated by the ERA.

There are also various potential levers for improvement at national level. Aviation has shown how important it is to consult the licensing authorities and expert organisations at an early stage of the development and production processes for new technologies. The licensing authorities and the supporting experts have to have sufficient human and technical resources to enable them to use modern test instruments, such as virtual simulation. Capacities could be saved by dispensing with repeated tests which have already been conducted at national level or in other countries. The staff at these authorities should be able to rely on technical expert opinions supplied by the test organisations without assuming the risk of personal liability. This form of organisation would also enable the high safety level to be maintained without compromise. The safety argument should not be used to keep competition out of national transport markets. To ensure forward-looking and functioning rail transport, it is decisive that the licensing procedures concentrate on those elements which are genuinely relevant for safety.

Concepts for national improvements

Involving the licensing authorities in development processes, introduction of modern test instruments, no multiple testing.



The specific national conditions have a decisive influence on the development of the rail markets all over the world. As a consequence of political decisions and the railways' pricing policies, British rail customers make a substantial contribution towards funding the national rail mode. (right: a railway in Scotland).

New studies: comparison of international rail markets

Scientific investigations based on the latest facts and figures confirm the importance of liberalisation, adequate funding and effectively functioning regulatory authorities for the successful development of rail markets.

Rail policy reforms

Each further reform is preceded by a thorough analysis of the foregoing measures.

The European Commission's preparations for a fourth railway package have induced many market players to take stock of the outcome of the rail reforms of the past few years. The objectives of these reforms were to raise the attractiveness of rail as a transport mode and to improve its economic efficiency, amongst other things by promoting competition. A further aim was to reduce the burden on the taxpayer. Faced with the Commission's plans for further reforms, the market players now want answers to the following questions: Have the original objectives been achieved? What effects have certain transport policy decisions had on the rail sector? What fundamental lessons can be learned?

Railway undertakings from several countries, associations like the Transport Workers Union and the European Commission therefore ordered several studies in 2012 (see list of new studies from 2012 on page 51), which investigated various aspects of the transport policy, budget policy and competition policy developments in the different Member states of the European Union. The studies also compare the trends in the individual Member States with one another and with non-EU States.

Transport policy objectives: increasing traffic performance

In terms of traffic performance, the studies examine various groups of countries over differing periods of time. The SCI study compares the development of rail passenger transport in the individual European states between 1994 and 2011 and concludes that Great Britain (+ 95 per cent), France (+51 per cent), Switzerland (+ 47 per cent) and Germany (+30 per cent) have achieved a particularly high increase in passenger kilometres. The Roland Berger study, on the other hand, analyses the large non-European rail markets in China, Japan, Canada, Russia and the USA, which together account for 50 per cent of total global rail passenger traffic. Over the last ten years, traffic performance has also increased in these countries, with the exception of Russia. In China alone, traffic performance rose by 7.6 per cent per annum.

Divergent trends were evident in the rail freight market. According to SCI, there was a particularly sharp increase in traffic performance in countries such as Austria, Great Britain and Germany. Between 1994 and 2011, all these countries recorded growth of

more than 60 per cent. By contrast, France (-30 per cent) and the Czech Republic (-37 per cent) suffered a severe decline in traffic performance. However, the studies fail to examine the current problems facing the European rail freight market. The Roland Berger study reveals that the leading non-European rail freight operators in China, Russia, Canada and the USA, which together are responsible for 80 per cent of the total global rail freight volume, have succeeded in raising traffic performance over the previous ten years, with annual growth rates ranging from 1.5 per cent per annum in Canada to 7.3 per cent per annum in China.

It is noticeable that good performance was achieved by both integrated and non-integrated railways. In many cases, the studies attribute the concrete performance trends to the specific circumstances in the country concerned. In Great Britain, for example, the reference values for analysis of passenger transport figures began on a very low level (SCI), while the high growth rates in passenger and freight transport in China are attributed to the substantial investments in infrastructure (Roland Berger). As reasons for the increase in traffic performance in Germany, the EVES study quotes the country's central geographical position for freight carriage. The stagnant development in the Japanese rail passenger market over the past twenty years is explained as a consequence of the declining population in Japan (Roland Berger).

Several factors have a decisive influence on the transport policy objective of raising traffic performance. A study conducted by the Boston Consulting Group, for instance, comes to the conclusion that above all the level of public funding and investments has a crucial effect on the efficiency of rail. The SBB study deduces that it is public funding rather than liberalisation which determines performance. The Ro-

Selection of new studies in 2012

Il contributo des trasporto ferroviario nella strategia di crescita in Italia e in Europa (The contribution of rail in the growth strategy for Italy and Europe)
Italian management consultants Ambrosetti, commissioned by the Italian state railway Ferrovie dello Stato (1.9.2012)

Leistungsanalyse ausgewählter Eisenbahnmärkte in Europa (Performance analysis of selected European rail markets)
SCI Verkehr, in consultation with Professor Christian Kirchner, commissioned by EVG Rail and Transport Workers Union (19.9.2012)

Steuerung des Wettbewerbs im schweizerischen und europäischen Eisenbahnmarkt (Steering competition in the Swiss and European rail market)
Professor Matthias Finger/Ecole Polytechnique Fédérale Lausanne, commissioned by the Swiss Federal Railways SBB (19.9.2012)

The 2012 European Rail Performance Index
Boston Consulting Group and Professor Matthias Finger, Ecole Polytechnique Fédérale Lausanne, commissioned by the French state railway Société nationale des chemins de fer francais, SNCF (19.9.2012)

The optimal setup of a rail system - Lessons learnt from outside Europe
Roland Berger management consultants, commissioned by DB/SNCF (15.10.2012)

EVES-Rail: Economic Effects of Vertical Separation in the railway sector
Consortium of consultants and scientists, headed by the Dutch transport consulting company InnoV, commissioned by the Community of European Railways CER (5.11.2012)

Third report on monitoring development of the rail market
Report from the European Commission to the Council and the European Parliament (21.08.2012)

Fluctuations in public subsidies, for instance in the Netherlands (left: Amsterdam) mean less certainty when calculating funding. The rail passenger market in Japan has been stagnant for the last 20 years owing to the declining Japanese population (right: a Japanese high-speed train).

land Berger study comes to the conclusion that the integrated structure of the leading international railway undertakings has made a vital contribution to their success.

Budget policy objectives: minimising the burden on the public purse

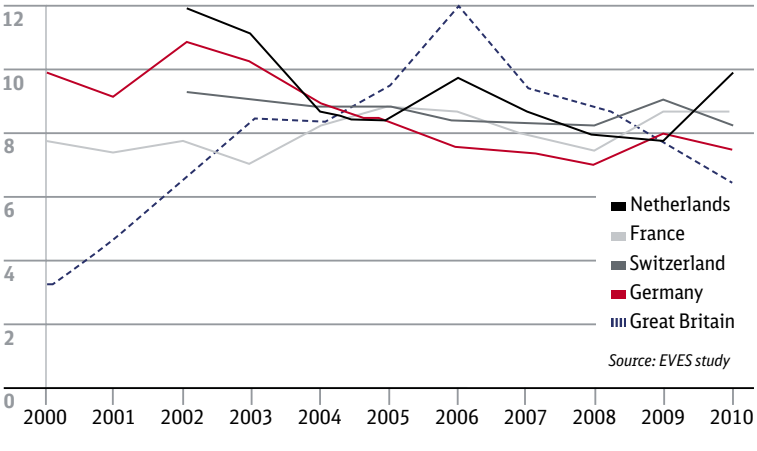
The studies opted for various methods to analyse the budget policy objectives. SCI and the Italian consultants Ambrosetti compare the public expenditure per unit of traffic performance in various countries. SCI found that Switzerland, for example, spent more than twice as much as Germany in 2011 per unit of rail traffic performance, whilst investments in Austria were as much as six times higher. In absolute figures, France and Germany provided the most public funds, each investing approximately EUR 11.4 billion in 2011. They were closely followed by Great Britain and Austria, each of which provided approximately EUR 8.7 billion in public funds.

The different levels of public funding in the individual countries are due to various influencing factors. The age or respectively the condition of the infrastructure and the need for investments play a part, as do the typical national conditions under which the railways offer their services, such as the geographical position, traffic volumes and the state of the rail networks. Furthermore, the rail users are involved to different degrees in the funding of rail transport in their own countries – whether as a consequence of political decisions, the pricing policies of the railways or the quality of the services offered. The studies conducted by Ambrosetti and EVES show that in a European comparison, users in Great Britain make a particularly high contribution towards funding rail transport. In 2010, for instance, rail passengers had to pay approximately twice as much per passenger kilometre as in Germany and a good 50 per cent more than in Switzerland.

The EVES study analysed the trends over a period of ten years, during which a continuous decline in public funding was evident in Germany, compared with a comparatively stable level in France and strongly fluctuating expenditure per transport unit in the Netherlands and above all in Great Britain.

As regards the budget policy objectives, both the SCI study and the Roland Berger study come to the conclusion that clearly delineated areas of responsibility between public and private actors as well as unequivocal regulations on the funding of infrastructure and rail operations help to maximise the efficient deployment of the public funds that are available.

Public subsidies for the rail mode
(euro cents per transported quantity)



Competition policy objectives: strengthening intra- and intermodal competition

All the studies clearly illuminate the differences in intramodal competition for each country and transport mode. Since the markets first opened in 2010, competition in the international long-distance rail passenger sector in Europe has developed only slowly. The same is true in the national long-distance rail passenger markets. Although some newcomers have joined the markets, for instance the Austrian company WESTbahn, which offers services on the route between Vienna and Salzburg, the long-distance rail passenger markets in many European countries are still not open to competition. Competition is more pronounced in the regional rail market for transports which are provided as a public service obligation, but the studies again point out the marked differences between the individual countries. In Great Britain, for example, all transport contracts are awarded in competitive tenders, whereas the French regional rail passenger market is still completely closed to competition. All the studies confirm a certain level of competition in the rail freight markets which are completely open to competition already since 2007.

As in Europe, intermodal competitive pressure also plays a key role in the international rail markets. Although the Japanese passenger railways and the American rail freight operators can largely operate without fear of competition on their own rail networks, they are nevertheless faced with fierce intermodal competition.

The studies identified several factors which help to promote competition on rail: firstly, the time factor is important. Intense competition has evolved in those countries which opened up their markets relatively early, such as Sweden, Germany or Great Britain. Other factors for the successful establishment of competition are the existence of a strong and independent regulatory authority and a political framework which supports rail's position in intermodal competition, for instance by offering favourable tax regulations. Finally, the lack of technical interoperability is a barrier for rail in terms of intermodal, international competition.

The European Commission has repeatedly made it clear that it regards the separation of infrastructure and operations as the decisive condition for achieving all of the above mentioned objectives. However, none of the studies stated above concludes that completely separate rail models, which are envisaged as the standard scenario in the European Commission's legislative initiatives for the fourth railway package, are more beneficial for the efficiency of the rail markets. In this regard, the findings of the EVES study are worth noting: the study illustrates that the costs of vertical separation increase in line with higher traffic density and a growing share of freight transport (or mixed operations). In actual fact, the mandatory separation of infrastructure and operations in all Member States would lead to additional costs of approximately EUR six billion per annum. Assuming transport growth at the forecast rate of ten per cent per annum, the target stated by the European Union itself, these costs would actually amount to as much as approximately EUR eight billion per annum.

> Liberalisation, independent regulation, the regulatory framework and interoperability are crucial for competition.

161.000.000

train kilometres were handled by competitors in regional rail in 2012

Competition Facts and Figures

25%

market share
[of competitors in the regional rail passenger market]

Euro two billion

have been supplied to DB Netz AG by the DB Group since DB Netz AG was founded in 1999.

28.6%

market share
[of competitors in the rail freight market]

[EUR 500 million]

of DB's own funds are invested in existing infrastructure every year.

22.4%

market share
of competitors on the network of DB Netz AG

On
28 February 2013
the European Court of Justice confirmed that the German holding model is in conformity with EU law.

60 thousand

train path applications
were submitted to DB Netz for the 2013 working timetable – the highest figure ever recorded by the company.

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