



Competition Report

2012

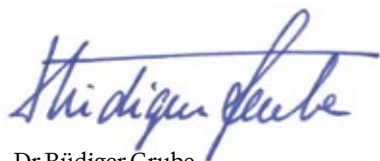
New strategy to face competition

There are two good things to report about the German rail market. Firstly: the rail mode is becoming more and more attractive. Last year, the use of rail infrastructure increased once again: operating performance on the rail network rose by 1.6 per cent and the number of station halts was up by approximately one per cent. Secondly: competition is developing steadily, as a large share of the increase in traffic performance was achieved by competitor railways, whose market share in terms of train-path kilometres passed the 20 per cent mark for the first time. This year's Competition Report confirms that the competitive environment in Germany is thriving. However, it also illustrates the challenges that all railway undertakings will have to face in the near future: rising energy costs, limited public funding, growing traffic volumes, changing customer requirements, strict environmental demands and increasingly congested infrastructure. The entire railway industry is called upon to make a concerted effort to provide customer-driven and economically viable rail transport for the future.

Deutsche Bahn AG has every reason to look to the future with confidence, as we believe that these challenges are simultaneously enormous opportunities for the rail mode and for public transport as a whole. Our new strategy "DB2020" is designed to reconcile economic, social and ecological objectives and will place the company in a better position to cope with inter- and intramodal competition. That is the only way we shall be able to achieve sustainable economic success and meet with wide acceptance in society.

However, leading the rail markets into the future is a task that lies not only in our hands. The legislative bodies in Germany and Europe, who are currently discussing radical changes to regulatory policies, also have considerable responsibility in that respect. We can contribute to this debate on the basis of our experience and knowledge of the market, which have proved that a consistently entrepreneurial focus and an integrated corporate structure are central factors for success if we are to continue to achieve the objectives of the rail reform in Germany. Corporate management geared to economic efficiency must remain possible in the rail sector of the future. In addition to upgrading rail infrastructure in line with demand, that is the crucial issue which will enable us to master the challenges of the future.

Sincerely,



Dr Rüdiger Grube



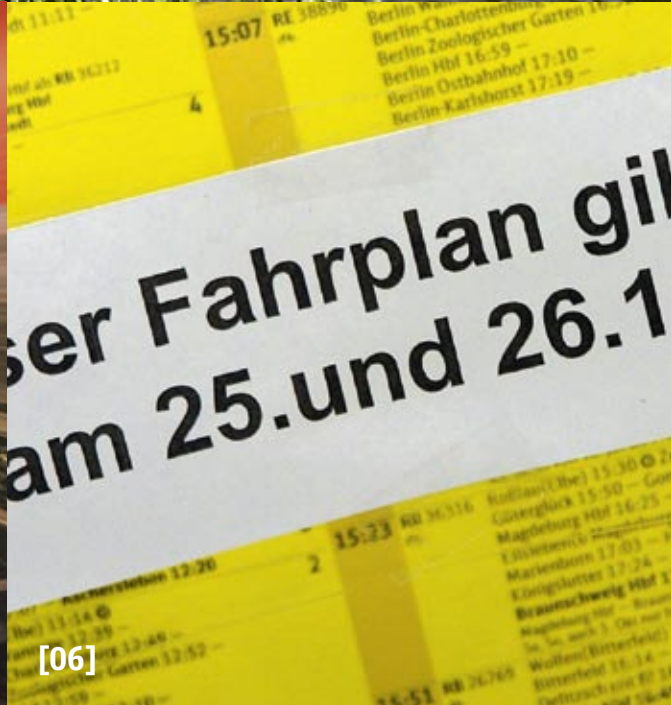
Dr Rüdiger Grube,
Chairman of the Board of Management
and CEO of Deutsche Bahn AG



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Competition

As a result of the good economic climate, both rail passenger and rail freight transport developed positively. Systematic infrastructure upgrading is essential to cope with further growth in future.



Sharp increase in passenger transport

In 2011, the passenger transport market in Germany enjoyed the strongest upswing in many years. Competition on rail is evolving slowly also in other EU Member States.

In a strong overall economic environment, the German passenger transport market once again enjoyed a noticeable increase in traffic performance after a rather weak development in 2010.

The low incidence of snow in winter 2011 compared with the preceding year had a positive impact on demand. Private motorised traffic and aviation, which had been severely affected by the strong snowfalls in 2010, benefited strongly from the relatively high temperatures in January and December. Despite the lack of any positive special effects as in year 2010 and the extensive construction work on rail infrastructure, the railways nevertheless succeeded in increasing their traffic performance. The overall passenger transport market achieved year-on-year growth of 1.8 per cent.

Aviation suffers from air traffic tax and high fuel prices

The domestic German aviation market got off to a positive start in 2011, as it did not have to cope with the previous year's pilot strikes, volcanic ash clouds or strong snowfalls. However, this dynamic growth slowed down considerably as the year progressed and demand suffered from the air traffic tax introduced at the start of the year.

The situation was aggravated by the downturn in the economy combined with high fuel prices, so that traffic performance for the year as a whole was slightly down year-on-year. At one per cent, the market share for domestic German air traffic remained unchanged in 2011. However, it should be noted that the Federal Statistical Office made technical adjustments to its data processing procedures in 2011 with backdated effect to 2010. Without these adjustments, this sector would probably have achieved a moderate increase in performance.

Private motorised traffic slightly up, slight decrease for the bus segment

The trend for private motorised traffic was similar. With a modal split of more than 80 per cent, this sector is decisive for the development of the entire passenger transport market. Altogether, private motorised traffic achieved growth of approximately two per cent for the year as a whole and raised its market share by 0.2 percentage points to 84.4 per cent (see info box on page 8 for further details). Again, the mild winter generated strong demand at the start of the year, but this tailed off significantly over the following months. This trend is presumably attributable to the repeated sharp increase in fuel prices. According to the ADAC, the major German automobile association, German motorists were faced with the highest fuel prices of all time in 2011.

The declining trend of the last few years for the public road transport market again continued in 2011, albeit less severely. This is due to the good economic environment. The high fuel prices undoubtedly also encouraged more people to opt for public road transport. This sector, however, suffered from the demographic change, evident in the decreasing numbers of schoolchildren and trainees in rural areas. On the other hand, the bus market performed well in cities with a population of more than 100,000, particularly in the metropolises. In 2011, the market share of public road transport declined again slightly to 6.9 per cent.

The regional bus market remains a fiercely competitive segment of public road transport. In 2011, DB Regio Bus, the DB subsidiary in the regional bus market, had to compete against numerous regional providers. Since a couple of years, competition has been heightened by various global players (e.g. Veolia/Transdev and Netinera, formerly Arriva Deutschland). Companies owned by the Federal States, such



as Hessische Landesbahn and BeNEX (majority shareholding owned by Hamburger Hochbahn), also bid for transport contracts. Besides this vivid competition, the bus companies also face increasingly stringent requirements from the client bodies together with insufficient funding. The client bodies withdrew eight out of 55 tenders in 2011, claiming that the bids submitted were not economically viable. In contrast, urban transport services are largely exempt from competition as under certain conditions the client bodies are permitted to award the contracts directly to municipally owned operators or companies which are affiliated to the municipal utility companies. Most local authorities are expected to continue to make use of this in-house contract award option over the coming years.

Traffic performance down in the long-distance segment, but up for regional transport

Demand for rail passenger transport was up by one per cent in 2011, adding up to a total increase in demand of approximately 20 per cent over the last ten years. Still,

there were pronounced differences between the regional and long-distance segments: whilst traffic performance by regional rail passenger transport has risen by around 30 per cent since 2002, the increase for the long-distance segment amounted to only nine per cent. This disparity continued in 2011. The massive disruptions in aviation in 2010 had led to a decrease in the demand for air travel, and the absence of these problems now led to a reversal in demand at the expense of rail. This adverse effect was enhanced by the extensive construction work on rail infrastructure, especially on the lines between Berlin and Frankfurt am Main and between Berlin and Hanover, as well as the abolition of national service in Germany. In terms of passenger-kilometres, performance was down by 1.6 per cent in 2011. By contrast, regional rail passenger transport achieved growth, primarily thanks to the positive economic climate, although high fuel prices presumably also encouraged many car drivers to switch to rail. Altogether, the DB companies and their competitors achieved a total increase in traffic performance of just over three per cent year-on-year.

DB adjusts its statistics for private motorised traffic

When assessing the modal split, it has to be taken into account that DB AG adjusted its traffic performance figures for private motorised traffic at the beginning of 2012, with backdated effect to 1994, to match the level recorded by the Federal Ministry of Transport, Building and Urban Develop-

ment. DB AG has changed this reporting standard in the interests of harmonisation and to enable better comparison of the transport statistics. In the course of this process, the figures for private motorised traffic were raised, so that the volume of the overall passenger transport market is now signi-

ficantly higher. The absolute traffic performance figures for all other transport modes, on the other hand, remained unchanged, so that their individual intermodal market shares are consequently lower. Nonetheless, the rail mode has succeeded in continuing the positive trend of the last few years.

Aviation suffered from high fuel prices (far left). Like all bus companies, DB Bahn Regional Bus is affected by the continuing downturn in the public road transport market (left). In the long-distance segment, the competitive pressure from other transport modes could soon increase when newcomers join the market (right).



More competition in the long-distance market?

At beneath one per cent in terms of traffic performance (passenger-kilometres), the market share of non-DB railways in the long-distance segment is still low. Veolia Verkehr GmbH has operated a long-distance train, the InterConnex, on the Leipzig-Berlin-Rostock-Warnermünde route through its subsidiary Ostseeland Verkehr GmbH since 2002. Netinera (formerly Arriva Deutschland, now belongs to the Italian state railway Ferrovie dello Stato Italiane) has operated on the Plauen to Berlin route since 2005. In August 2011, the MSM Group announced its intention of joining the long-distance market as from the end of 2012 with services on the Cologne-Hanover-Hamburg and Cologne-Hanover-Berlin routes, planning to offer two trains in each direction every day. To date, the company is known mainly as a provider of charter trains in connection with special events or seasonal services. The railway undertaking Hamburg-Cologne-Express (HKX) had already announced plans to join the market back in 2009, when the company was set up as a joint venture of locomore rail, founded in 2007, and the investors Railroad Development Corporation (RDC) and Michael Schabas. HKX had purchased rolling stock from ÖBB and had it refurbished in Poland. The actual railway operations were to be handled by Veolia Verkehr, with locomotives and drivers supplied by Veolia. However, it is not yet clear when operations will actually begin, as HKX is still waiting for approval of the rolling stock from the Federal Railway Authority.

When DB withdraws from the cooperation for international high-speed transport with the French SNCF and the Belgian SNCB as planned, Thalys will become a further competitor in the long-distance market, especially on the Aachen-Cologne-Essen route. The company has extended its trains from Paris to Cologne into the Ruhr area since 2011. One train departs

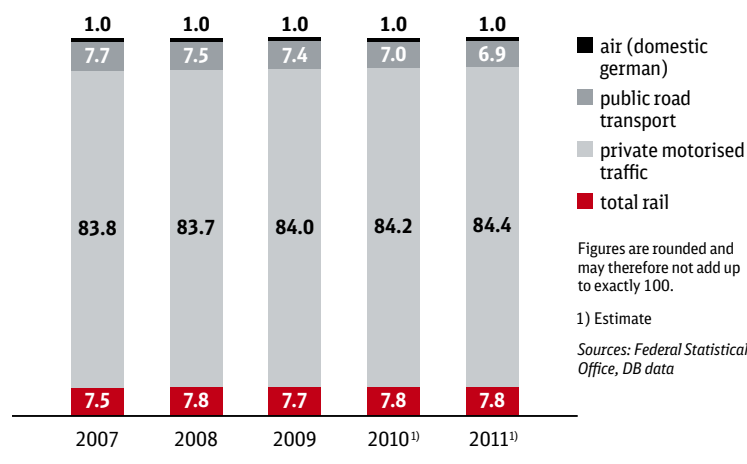
every morning from Essen for Belgium and France via Duisburg, Düsseldorf, Cologne and Aachen; the return journey to Essen in the evening departs from Paris. However, DB and SNCF continue to cooperate. Since 2007 they offer daily connections between Frankfurt, Munich and Paris, since 2012 also between Frankfurt and Marseille.

Still strong intermodal competition

In contrast to the limited intra-modal competition, long-distance rail passenger transport has to cope with strong intermodal competitive pressure from coach operators and airlines as well as private motorised traf-

Only private motorised traffic won shares in 2011

(share in per cent; basis: traffic performance; figures rounded)





DB and SNCF offer daily services to Paris from Germany (left). Strikes by the train drivers impaired the services operated by Deutsche Bahn competitors (right). The Erfurter Bahn: Provider of regional rail passenger transport in Bavaria, as from summer 2012 also in Eastern Thuringia (far right).

fic. Airlines such as Lufthansa, Germanwings and Air Berlin offer a number of connections inside Germany which compete with DB. The most important connections are the routes between Berlin, Munich, Hamburg, Frankfurt, Cologne and Düsseldorf. Lufthansa offers domestic flights for as little as EUR 49 one way and for EUR 99 return. This year, competition from road could also gain momentum following the revision of the Passenger Transportation Act. The bill submitted by the Federal government in December 2011 envisages imminent liberalisation of the German long-distance coach market. The central item is the abolition of protection for the railways against competition in order to enhance competition in the long-distance

transport market. This will provide numerous opportunities for competitors to enter this market.

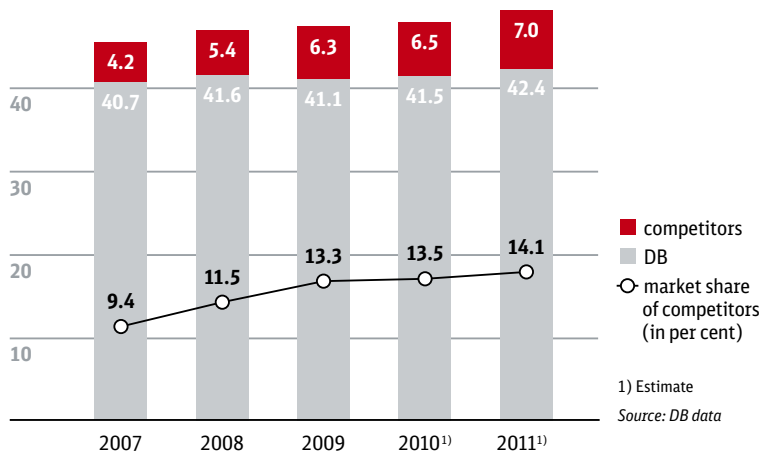
Competitors in the regional rail market continue the positive trend of the past few years

Last year there was again intense rivalry for transport contracts in the regional rail passenger market. DB's major competitors include above all subsidiaries of foreign state-owned railways, such as Netinera, a subsidiary of the Italian state railway FS, the SNCF subsidiary Keolis, and Abellio, a subsidiary of the Dutch state railway NS. In terms of passenger-kilometres, non-DB railways achieved a substantial year-on-year increase of around eight per cent, whereas DB Regio, the DB subsidiary in the regional rail passenger market, recorded an increase of 2.2 per cent. In addition to the good economic climate, performance improved thanks to the better operational situation at S-Bahn Berlin, which provides rapid transit services in the capital and had suffered from technical problems with its rolling stock the preceding year.

Non-DB railways were hit by a high number of strikes by the train drivers at the beginning of 2011, as the Train Drivers' Union GDL attempted to achieve uniform pay levels throughout Germany, forcing non-DB railways to adjust their wage rates to match the levels in force at DB AG. In some cases, such as the Nord-Ostsee-Bahn, the conflict lasted several months. However, the second half of the year more than made up for the weak start caused by the strikes. The marked economic upswing and the lines taken over by competitor railways on introduction of the 2010/2011 timetable led to a comparatively strong expansion: DB's competitors in the regional rail passenger market handled a total of approximately 155 million train-kilometres in 2011, which is equivalent to almost a quarter of the total market volume of approximately 642 milli-

Railways achieve year-on-year increase in traffic performance

(billion passenger-kilometres)





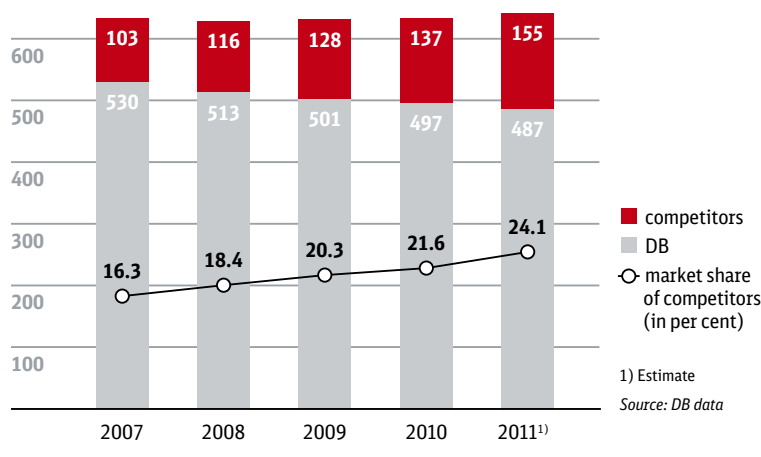
on train-kilometres. This is an increase of 13.1 per cent on 2010 and continues the expansion of the market share of non-DB railways since the start of the liberalisation process. In 2011, DB's competitors won 28 per cent of the total train-kilometres awarded. The "Heidekreuz" diesel network in Lower Saxony, for example, has been operated by erixx GmbH, a subsidiary of Netinera, since the start of the new timetable in 2011. However, DB Regio AG succeeded in winning some transport contracts, such as the concession for the entire rapid transit network in Frankfurt am Main. A total of 20 transport contracts were up for award in 2011. This year could see a further increase in competition as contracts for a total of around 338 million train-kilometres are to be re-awarded between 2012 and 2015. This accounts for half the operating performance of the total market volume of approximately 642 million train-kilometres.

The high number of tenders is simultaneously a challenge for the market as each competitive procedure entails substantial financial and personnel outlay for the applicants to calculate an economically viable offer. Moreover, the tenders are becoming more and more complex as each of the 27 client bodies has its own ideas as regards contract structure and minimum conditions. A study on the activities of bidders in the German regional rail passenger market commissioned by the Federal Working Group of the Regional Rail Passenger Transport Client Bodies and published in February 2012 nevertheless comes to the conclusion that the regional rail passenger market in Germany is still attractive in comparison with other European countries. The survey was conducted amongst decision-makers at the most important railway undertakings which operate services in Germany, virtually all of whom confirmed that they intended to continue to participate in competitive procedures in Germany in future.

At the same time, the number of competitive procedures which have been discontinued shows that the potential savings that can be achieved by competitive contract award are not as high as anticipated. The railways participating in those competitive procedures which were withdrawn had submitted bids which the client bodies believed could not be financed. This is because it was impossible for the railway undertakings to comply with the financial framework which had been drawn up on the basis of cost assessments prior to the contract award procedures. If the planned funding volume is significantly exceeded, the client bodies frequently withdraw the contract award claiming that no "financially viable result" could be obtained. In 2011, three tenders

DB competitors provide almost a quarter of regional rail services

(train services in million train-kilometres)



The European Commission intends to promote harmonisation of the European rail market with the fourth railway package. In Sweden, Stockholm regional transport company awarded a contract, which went to DB Arriva.



for a total of 14.2 million train-kilometres were withdrawn. These latest trends are a clear sign that the client bodies have to agree on common standards and harmonisation of the tender procedures. This would considerably reduce red tape and also lower the costs for market players wishing to participate, which would in turn benefit not only the railway undertakings, but also the client bodies and the customers.

Movement in the European rail passenger market

The competitive situation in Europe remains mixed. In the Netherlands, the trend appears to be reversing: in order to avoid the insolvency of the high-speed operator High Speed Alliance, a joint venture of the Dutch state railway Nederlandse Spoorwegen (NS) and the Dutch airline KLM, the government eased the requirements of the transport contract which was already in force. It also announced that NS was to be granted an exclusive licence for regional and long-distance transport for the greater part of the Dutch rail network as from 2015, which will exclude any kind of competition whatsoever. The licence is to be valid for ten years.

At the same time, there are definitely positive trends regarding competition in the rail passenger markets in numerous EU Member States. In Austria, for example, the first private railway undertaking in the passenger transport sector began to operate in competition with the Austrian state railways ÖBB on introduction of the new timetable on 11 December 2011. WEST-bahn offers hourly departures on the Vienna-Salzburg route (or on to Freilassing in Germany). CEO and minority shareholder (26 per cent) is Stefan Wehinger, the former CEO of ÖBB Personenverkehr AG. Further shareholders include SNCF, which owns a stake of 26 per cent. There has also been competition in the Czech passenger transport market since 2011: in September, RegioJet, a subsidiary of the largest Czech long-distance

coach operator Student Agency, began operations between Prague and Ostrava. A further provider, LEO Express, will also offer services on this route as from December 2012. In the French market, Trenitalia and Veolia Transdev have operated a night train between Venice and Paris under the brand name thello since December 2011. This is the first service in the long-distance rail passenger market in France which is not operated by or in cooperation with SNCF. It remains to be seen how competition will develop in Italy. In 2011, the private Italian railway undertaking Arenaways, which had operated ring services between Milan and Turin since 2010, failed because of the competitive conditions and had to file a petition in bankruptcy. The entire services operated by the company have meanwhile been discontinued. Arenaways blamed its failure on the Italian state railway Ferrovie dello Stato (FS), which had prevented it from stopping at major intermediate stations so that it was not possible to operate the route profitably. The company Nuovo Trasporto Viaggiatori (ntv), in which SNCF holds a share of 20 per cent, postponed its planned market entry until 2012. Following articles in the press, the Italian Railway Safety Authority granted the company the final safety certificates in March and ntv was able to launch its high-speed services on major routes, for instance between Milan, Turin, Rome and Naples, in April and compete against the incumbent FS (and its railway undertaking Trenitalia).

In Sweden, Stockholm regional transport company awarded the largest ever transport contract, which has a term of 12 years and went to DB Arriva, the Deutsche Bahn subsidiary for foreign regional operations. This doubles Arriva's present activities in the Swedish market. Further changes in the competitive environment are inevitable: the European Commission is about to introduce the fourth railway package which is intended to promote the liberalisation and harmonisation of the European railway market (see from page 38).



In an intermodal comparison, the rail freight operators were the winners in Germany in 2011.

Divergent trends for rail freight operators in the year 2011

Traffic performance by rail increased both in Germany and in Europe. However, the imbalance in the framework conditions for rail is pushing up production costs drastically and consequently jeopardising rail's competitiveness.

The year 2011 showed two disparate trends for the German freight transport market (rail, road, inland shipping, long-distance pipelines). The first six months profited from the overall positive economic climate with strong impetus coming from foreign trade and a recovery in domestic demand.

In the second half of 2011, this trend tailed off and in the final third of the year, the downturn in the global economy, combined with the euro and national debt crises, led to an unexpected slump in demand. Traffic performance in the German freight transport market for the year as a whole was up by 3.3 per cent. As a result of the continuing high level of inter- and intramodal competition and declining demand, there was little scope for enforcing the necessary price increases to make up for the higher operating costs. The pressure on margins therefore remained severe and the market players were faced with a fraught financial situation. In addition to the costs of human resources, infrastructure, insurance and the purchase of freight space, the sharpest price increases referred first and foremost to energy costs. Diesel prices, for example, rose by two figures yet again and were almost 16 per cent higher in 2011.

Only *inland shipping* was unable to reap the benefits of the good economic climate because of special effects and had to cope with a substantial slump in performance. This was attributable amongst other things to the accident near St. Goarshausen right at the start of the year. On 13 January, a tanker carrying sulphuric acid capsized near the Loreley cliff and the Rhine had to be closed for shipping for several weeks as a result. This caused traffic performance to fall by 21 per cent in January 2011 and the trend over the next few months also remained weak, with low water levels leading to extreme fluctuations in operating performance. Matters came to a head in November when the water level in the Rhine, by far the most important waterway, reached an all-time low, again causing reductions running into double figures. Traffic performance by inland shipping decreased sharply by 11.6 per cent for the year 2011 as a whole. The market share for this segment also decreased significantly, falling to below nine per cent.

Traffic performance in Germany in the *road haulage market*, which includes both vehicles licensed in Germany and abroad, achieved double-digit growth during the first quarter of the year. Apart from the



strong economic stimuli, growth was due primarily to the above average trend for the building industry, which plays an important role for truck transports. This segment profited in particular from the base and backlog effects resulting from the poor performance at the beginning of 2010 and the high snowfalls in December 2010. However, the impetus from the economy declined significantly as the year progressed. Even the autumn business, which is normally brisk following the customary slump over the summer months, was unexpectedly moderate in the year under report, so that by the end of the year, the increase in performance had tailed off to just over five per cent. The market share rose by just over one percentage point.

Traffic performance in the German road haulage market achieved five per cent growth in 2011.

Based on the road toll statistics of the Federal Office for Freight Transport (BAG) and information provided by the Federal Motor Transport Authority, trucks licensed in other countries succeeded in raising their traffic performance by around seven per cent, again a significantly higher increase than their competitors from Germany, which achieved an increase of approximately four per cent. The only three non-Central or Eastern European countries in the TOP 10 nations in the motorway toll statistics were the Netherlands, Austria and Italy, all of which showed a below average trend, with performance by vehicles from Austria and Italy actually down. As regards performance by trucks from Central and Eastern European (CEE) countries,

it was primarily vehicles from Romania and Bulgaria which recorded the highest increase in kilometric performance, with growth rates of more than 20 per cent. These are also the countries where the transition period for the ban on cabotage transports expired at the end of 2011.

Even if the cost levels in the CEE countries, as stated by the BAG, have meanwhile become closer to the costs for companies in Germany, for example, these countries still enjoy clear advantages, above all in the form of lower personnel expenses. The cost structures in the road haulage market benefit from the growing share of Eastern European trucks and the low obligations to abide by collective wage agreements. The factor costs for rail have risen far more severely in recent years than for road haulage. Even if there was a noticeable increase in contract freight during the first six months of 2011, it was still not possible to adjust the freight rates to compensate for the rapidly rising costs. The situation proved more positive in the spot market, where price increases of up to 30 per cent could be enforced, not least because of the scarcity of freight space over large parts of the year. However, the poorer demand in the second half of the year, together with isolated surplus truck capacities, also curbed this trend and in some cases led to prices being reduced again. The financial situation remained precarious for many small and medium-sized companies.

Substantial increase in the market share of rail freight operators in 2011

In a comparison of the different transport modes in Germany, *rail freight* achieved the strongest growth in 2011. This sector again expanded its market share, which reached a level of 17.6 per cent, matching the high figure from 2008, not least thanks to the slump for inland shipping. After the good recovery the pre-

Road haulage expanded its market share (far left). The carriage of cars (left) and containers (right) led to exceptionally good performance for the rail freight operators.



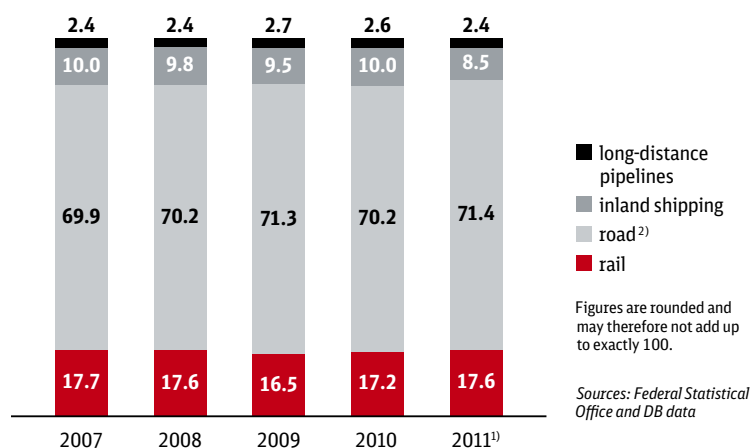
vious year, the strong growth continued well into the year 2011 with a substantial increase in demand and performance up approximately 8.5 per cent during the first six months. Although the trend began to decline unexpectedly severely as from late summer, the railways nevertheless achieved growth of 5.4 per cent for the year as a whole. The upturn was primarily attributable to the industry sectors “non-metallic minerals” and “iron/steel” as well as “other goods”, which involves predominantly containerised freight. These three segments achieved above-average growth and together account for approximately 60 per cent of the total volume carried by rail. Whilst other transports, such as automotive, chemicals and coal, also achieved significant increases in some cases, performance by the segments “agricultural and forestry” and “coke and mineral oil products” was down.

Increase in performance by DB Schenker Rail and its competitors

By September, traffic performance by the DB Schenker Rail companies in Germany had risen by more than six per cent. It was only in the last third of the year that this positive trend reversed significantly in line with the economic downturn, with demand falling below the previous year’s level. Foreign trade began to slow down and the pace of growth in virtually all sectors of industry declined. Output by the chemicals industry and steel production, which plays a key role for DB, decreased and had a corresponding adverse effect on the demand for transport. In terms of volume, however, the year 2011 was successful on the whole, with tonne-kilometres up by 4.3 per cent. There was above average growth for block trains, which increased twice as strongly as the single wagon-load transport segment, which has to cope with intense competition from road haulage.

In 2011, DB’s competitors succeeded in increasing their traffic performance by 9.0 per cent, twice as high as DB, picking up from the trend from the years prior to the economic crisis. Transport volumes rose for non-metallic mineral, food, beverages and tobacco and in some sectors of the coal and steel industry. The effects on the market position of some individual rail freight operators that can potentially result from the intramodal shift of one large-volume order from DB Schenker Rail to its competitors became clear when the paper transports between Swedish production plants and their customers in Germany, France, Italy,

Rail freight operators more successful in 2011 than other modes
(per cent; basis: traffic performance; figures rounded)



1) Estimate; 2) German and foreign trucks (incl. cabotage transports in Germany)

11,000 kilometres in 23 days

DB Schenker Rail provides a daily block train, in cooperation with partner railways, from Leipzig to Shenyang in China for the car manufacturer BMW, which benefits from the vast European network.

■ change-of-gauge station
(1435/1520)

■ change of locomotive

■ port

○ major station



the Benelux countries and Eastern Europe were taken over at the beginning of 2011 by the Captrain group, a subsidiary of the French Fret SNCF, in cooperation with the Swedish Green Cargo and Hector Rail. Within just one year, this changeover led to an increase of more than 20 per cent for the competitors in this sector and had an accordingly positive effect on overall performance by non-DB rail freight operators. In terms of the traffic performance handled by the entire rail freight market in Germany, non-DB rail freight operators expanded their market share to 26 per cent in 2011. If this figure is restricted to the two top performance sectors of intermodal and liquid petroleum products, which together account for roughly 60 per cent of total performance by non-DB railways, their market share actually amounts to almost 40 per cent.

Attractive rail market in Germany

Competition in the German rail market has been developing positively for years. This is substantiated not only by the high market share held by DB's competitors, but to an even greater extent by the absolute performance volumes achieved by non-DB railways. At more than 29 billion tonne-kilometres, the volume they handle in Germany – relative to the figure for 2010 – is roughly as high as the entire rail freight market in France, one and a half times as high as in the United Kingdom and more than twice as high as in Switzerland.

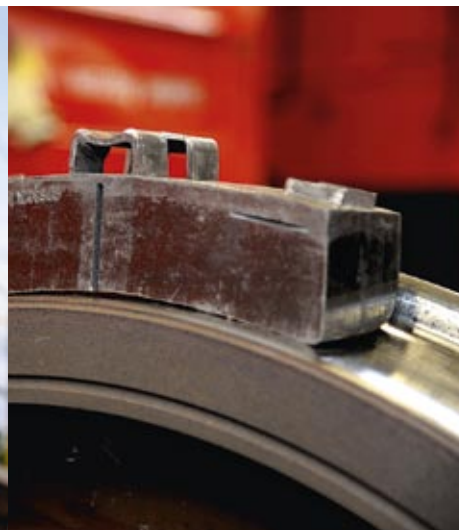
One of the factors which promotes competition is the comprehensive regulation of market access, which functions very well according to a survey conducted by market experts and published in the journal "Güterbahnen" in the last quarter of 2011. The market survey conducted by the Federal Network Agency in 2011 comes to a similar conclusion. The ratings given by market players for topics such as train path alloca-

tion and timetable quality have improved steadily in almost all cases in recent years. Moreover, the successful development of all rail freight operators – whether DB Schenker Rail or its competitors – despite the above average level of competition, confirms the attractiveness of the German rail market.

Customer demand for individual, complete logistics concepts is one of the main reasons why rail freight operators decide to enter foreign markets. The railways either work in cooperation with partner companies in the country concerned or assume overall management of the transports themselves, thus eliminating frequently time-consuming and expensive interfaces. Moreover, this also enables them to influence the transport quality more directly. Trenitalia, for example, is expanding its European activities through its subsidiary TX Logistik, which became a wholly owned subsidiary in 2011, and will begin transports in France and Belgium in 2012. Trenitalia is also planning to expand its market shares in Central and Eastern Europe. PKP Cargo meanwhile operates its own services on the German rail network, and SBB Cargo International and CFL Cargo have also increased their transports.

DB Schenker Rail is making good progress with the ongoing development of its present single wagon-load and block train networks to form one integrated network. As part of its successful ventures into various national markets, DB has operated regular-service freight trains from Wrocław in Poland to the United Kingdom since November 2011.

Another good example is the daily block train between Leipzig and Shenyang in China, which DB Schenker Rail operates on behalf of automobile manufacturer BMW in cooperation with partner railways in Poland, Belarus, Russia and China. Rail is an attractive alternative to ocean transport, especially for industrial plants located in the Chinese hinterland. The Russian state railway RZD is also planning to intro-



The Swedish Green Cargo company is one of the railways which still offer single wagonload transport (left). Conventional cast iron brake blocks are increasingly being replaced by composite brake blocks, also known as “whispering brakes”.

duce regular-service freight trains to carry large quantities of freight between East Asia and Central Europe in future.

Trends for growth market of Europe remain heterogeneous

According to DB's own figures, traffic performance in the European rail freight market achieved year-on-year growth of about 6.5 per cent in 2011. As in the previous year, there were substantial differences between the individual rail freight operators and European national markets depending on the framework conditions created by the national economies, political situation, competition and entrepreneurial decisions as well as the base effects resulting from the performance in the preceding year. Whether in Germany or elsewhere, competition on rail is restricted almost entirely to the block train segment, while conventional single wagonload transport is still in the hands of the (former) incumbents. In view of the high costs and considerable risks of this segment, which offers only poor margins and is moreover in direct competition with road haulage, there is little incentive for rail freight operators to compete against the existing single wagonload systems of the incumbents. The problems of this situation are evident from the decision of some countries to withdraw from this segment completely or to redimension capacities significantly, as was recently the case in Italy and France. This situation poses additional challenges for those European railways which still offer single wagonload services, as it becomes increasingly difficult for them to provide comprehensive international services. The Xrail alliance founded by six European railways in 2010 has therefore set itself the target of establishing new quality standards in the interests of strengthening not only the single wagonload segment, but also rail transport

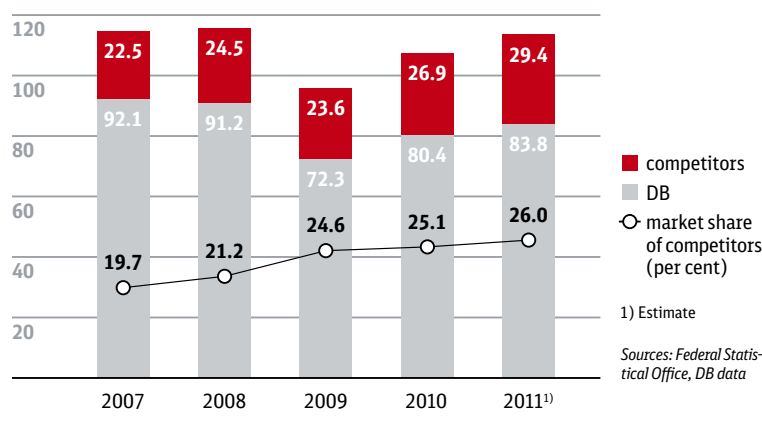
as a whole. Without efficient performance by the environment friendly rail mode, it will not be possible to cope with the long-term growth forecast for freight transport in Europe.

Railways faced with cost pressure

However, whether these forecasts will become reality depends to a great extent on the framework conditions. Only railway undertakings with an efficient structure and successful financial performance will be able to master the challenges of the future. Although the freight rates have still not recovered from the slump of the economic crisis in 2008/09, the cost burden has con-

DB Schenker Rail's competitors have expanded their market shares

(billion tonne-kilometres)



tinued to rise steadily, primarily owing to the higher costs of personnel, infrastructure and energy. Even continuous improvement processes and productivity increases have been unable to remedy this imbalance.

In November 2011, the Association of German Transport Undertakings (VDV) published a position paper entitled “Rail-freight must remain competitive”, in which it calculated the increase in production costs based on the example of an intermodal train. It predicts that the production costs will continue to increase and will have risen by 27 per cent by the year 2015, relative to the year 2010. There are two crucial factors for this development:

Cost driver No.1: energy and environment charges

Rising energy prices and emissions trading are expected to lead to an increase of around nine per cent in this cost segment. The already high burden resulting from emissions trading will rise yet again in the third trading period, which begins in 2013. Electrically powered rail transport is the only transport mode which will then have to bear the cost of purchasing the entire emission certificates it requires. Depending on how the prices of these certificates develop, rail freight transport alone is expected to have to shoulder additional costs of up to EUR 90 million per annum, according to the VDV. In a European comparison, railways in Germany already have to bear a higher burden of taxes

and charges as a result of German energy policies. The DB Group in Germany alone pays an annual sum of EUR 400 million, with rail freight transport accounting for approximately 30 per cent of that amount. In other European countries, railways are either totally exempt from such taxes (France and Poland) or are faced with only low costs (Italy and Austria).

Cost driver No.2: technical retrofits

VDV expects the second-highest increase, of eight per cent, to result from the obligation to retrofit the vehicles with the European Train Control System (ETCS), as well as additional costs for the purchase of new IT systems in connection with European interoperability regulations. Pursuant to Directive 2001/16/EC on the interoperability of the conventional trans-European rail system, railway undertakings are obliged to use certain IT-aided data reporting and data interchange procedures. Higher infrastructure charges account for a further four per cent, followed by the more stringent European noise abatement requirements, amongst other things for freight wagons, which also calls for replacement of conventional cast iron brake blocks by composite brake blocks. This measure, plus the additional expenses resulting from higher wagon and personnel requirements, will cause cost increases of around three per cent.

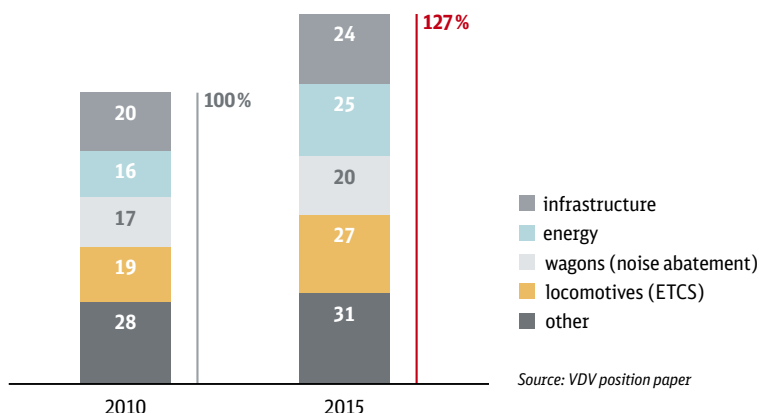
These burdens have been further aggravated by the measures introduced in response to the accident in Viareggio, Italy to improve the already high safety standards of rail transport. The reduction of maintenance intervals and additional testing of freight wagons has led to an increase of roughly one third in the number of inspections, which has in turn entailed further cost increases.

These trends illustrate the importance of setting the right framework conditions. Without a reduction in energy charges, for instance, without sufficient financial support for retrofitting the freight wagons and facilitating the migration to ETCS, and without ensuring adequate infrastructure funding to enable prompt remedy and prevention of bottlenecks, the rail freight operators will be faced with continuing severe cost increases which will jeopardise the competitiveness of rail freight transport.

Unless the framework conditions are adjusted, it has to be assumed that the rail freight sector will not only lose transport volumes, but will also be excluded from participation in the forecast growth in transport. The rail freight operators would then be unable to fulfil the important role assigned to them in terms of transport and climate policies.

Increase in production costs of a sample train

(intermodal, approx. 120,000 kilometres p.a., operating primarily on very busy lines; cost elements per train-km, 2010 index 100%)





The ports of Bremen reported the best results ever in 2011.

Logistics markets in the slipstream of volatile conditions

The individual segments of the logistics market responded differently to the global economic situation. Whilst ocean and land freight achieved positive growth in 2011, air freight suffered from declining performance.

After the strong recovery of the global economy in 2010, growth began to slow down again in 2011 as predicted, especially as a result of the national debt crisis in the euro area, the faltering US economy and the decreasing pace of growth in the newly industrialised countries. The trend was enhanced by special events such as the reactor catastrophe in Japan, the Arab Spring and, especially during the first six months of the year, the noticeable rises in the price of raw materials. As a result of these volatile framework conditions, performance varied substantially for the different market segments of the international transport and logistics industry.

Customers switch transports from plane to container vessels

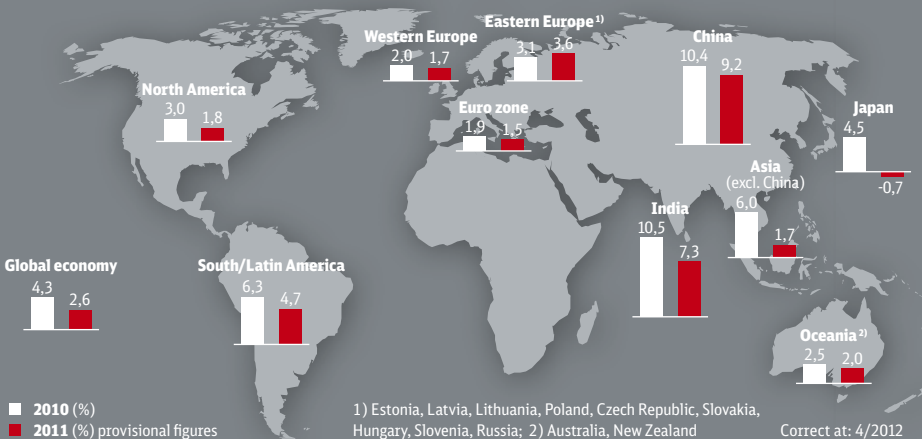
The global airfreight market was most directly affected by the turbulent markets in recent years and showed the strongest reactions, both positive and negative. This segment consequently serves as a sort of early warning system for imminent economic changes. In 2011, it failed to fulfil the hopes that it would return to its usual growth rates of between four and six per cent, after the

slump caused by the economic crisis in 2009 and the strong recovery in 2010. After good performance during the first quarter, the trend slowed down significantly and even the traditional strong autumn business failed to materialise. In the second half of the year alone, this market decreased by around five per cent, falling short of performance by world trade as a whole. This was particularly evident in the Asian-Pacific region, the most important market for the air freight sector.

Over the course of the year, decreasing demand owing to the sluggish economy and the increasingly uncertain situation coincided with substantial surplus capacities. Not only did new freight space come onto the market, but capacities also increased as space became available when customers shifted their transports to container shipping which, although slower, was less expensive. As a result of these surplus capacities, freight rates in the air freight market also came under pressure. It remains to be seen whether this shift to shipping is merely a temporary pattern or the first sign of a trend reversal. The decrease of only 0.6 per cent for 2011 as a whole remained comparatively moderate only because of the growth achieved during the first months of the year.



Global economic development in 2010/2011



Whilst performance by international shipping had been similar to the air freight market in recent years, the situation changed in 2011. Quantities were slightly down for air freight, whereas container shipping achieved growth of approximately 5.5 per cent. Again, there was an increase in transport from Asia, although the volumes of inner-Asian transports as well as freight from Europe to Asia also contributed to growth. The market suffered in particular from surplus capacities on the high-volume trade routes, causing freight rates to come under severe pressure as the year progressed. At times, the freight rates per container were down by fifty per cent. This drop in rates for shipping compared with air freight further encouraged the intermodal shift from air to ocean, despite the longer transport times at sea. The customers simply adjusted their plans and integrated the transport times in their logistics chains, in the form of a virtual storage period.

Increasing cooperation amongst shipowners

In addition to the general atmosphere of uncertainty in the markets with regard to future developments, unforeseen incidents such as the natural disaster and nuclear accident in Japan and the increase in pirate attacks also had adverse effects on 2011. Changes in itineraries, delays, additional expenses for human resources, fuels and ultimately insurance premiums all led to significantly higher burdens for the shipping lines. These trends at least partly explain the emerging endeavours on the part of shipowners to cooperate more closely. On the one hand, the Japanese shipping lines NOK, K-Line and NYK have announced plans for closer cooperation; the second and third-largest companies in this sector, the Mediterranean Shipping Company (MSC), Switzerland, and CMA-CMG from France, have also signed a strategic partnership agreement and undertaken to bundle their fleet capacities

on certain routes. On the other hand, these activities are not simply measures to counteract the risk of falling prices, but also indicate the start of predatory competition in the battle for market shares.

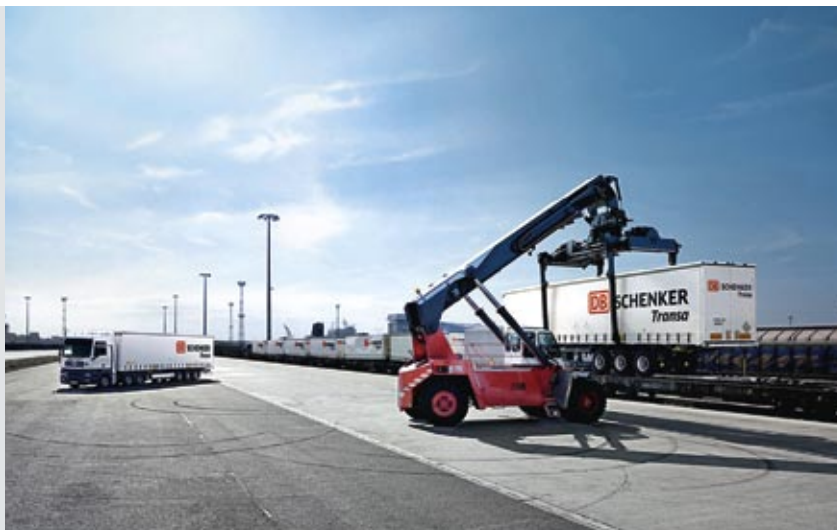
The figures for the German ports in 2011, on the other hand, were unequivocally positive, with the ports of Bremen announcing the best results in their entire history. It can be assumed that the key port of Bremerhaven defended its leading position amongst the European automobile hubs, ahead of Zeebrugge. The port of Hamburg also announced extremely good results, with overall ocean freight throughput up by roughly ten per cent to approximately 131 million tonnes. Container throughput also achieved above average growth of around 13 per cent to approximately nine million TEU and Hamburg succeeded in winning further market shares in competition against the other major North Range ports. This is also reflected in the operating results of the port railway, Hamburger Hafenbahn, which carried more than two million standard containers for the first time and boasted the best results in the company history. Hamburg thus again consolidated its position as the leading railway port in Europe.

Significant increase in road transport

The year got off to a good start for European land transport and although growth tailed off as the year progressed, overall performance remained strong. Nevertheless, the curbing effects of the economic downturn and the increasing uncertainty were unmistakable.

Overall economic production in the euro area achieved only a slight increase in the third quarter, and if Germany is excluded, there was actually zero growth. Although the struggling economy also had noticeable effects in core countries such as the Netherlands, Belgium and also the non-euro United Kingdom, it was the Southern European countries in parti-

The road haulage market normally enjoys brisk autumn business following the traditional reduction in late summer. In 2011, however, the recovery was subdued (right).



cular which weakened the overall trend. Italy and Spain, which are not only two of the largest national economies, but also the major logistics markets in Europe, were adversely impacted.

The road haulage market normally enjoys brisk autumn business following the traditional reduction in late summer. In 2011, however, the recovery was subdued. Nevertheless, traffic performance for 2011 as a whole rose significantly by around five per cent, according to initial estimates, and it can be assumed that the stronger trend for countries in Eastern Europe compared with the West, which was apparent the previous year, also continued in 2011. Cabotage transports are also expected to have achieved above average growth. According to a report on the road haulage market in 2010 published by the EU Commission in autumn 2011, this segment was up by 17 per cent. The ranking according to country of origin is led by trucks licensed in Poland, which account for almost one third of total cabotage performance, followed by vehicles from the Netherlands, Luxembourg and Germany.

Germany and France have the cabotage markets with the highest revenues

In terms of revenues, the top cabotage markets in 2010 were Germany and France, the two largest European logistics markets which together handle more than 60 per cent of these transports. The different trends over the course of 2011 were apparent in the availability of freight space and fluctuating freight rates. While freight space was increasingly scarce at the start of the year, at least on a regional scale, surplus capacities were again available by the end of the year. Despite consistently fierce competition, freight rates increased substantially over the first six months of the year, although there were marked differences between contract freight rates and the prices in the spot market.

Whilst the sharp rise in operating costs could be passed on to contract freight customers only to a limited extent, prices in the spot market increased significantly. However, the situation in that market also changed as demand began to fall in the second half of the year and it became more and more difficult to enforce price increases, so that prices were in fact reduced in some individual cases. Despite the downturn in demand in the second half of the year, revenues for European land transport for the year 2011 as a whole were nevertheless up by approx. seven per cent year-on-year.

Although the downturn in the global economy was also noticeable in the contract logistics market (contract logistics/supply chain management), there was practically no change in the pace of growth compared with the previous year. Within the overall contract logistics market, industrial contract logistics is the largest and strongest growth segment, not least because of the still comparatively low share of outsourcing. This segment includes all individual services in connection with the delivery and supply of materials for production processes, and the key accounts are to be found in the core sectors of automotive, electronics and industrial. The second most important segment, with a share of roughly one third of the total volume, refers to contract logistics for consumer goods. This involves logistics services provided for manufacturers, retailers and wholesalers in connection with everyday consumer goods, with food and everyday supplies forming the two main groups. Despite the incipient downturn in 2011, revenues for the overall contract logistics market were up by six per cent, almost matching the previous year's growth of seven per cent. Demand was boosted by the increasing outsourcing activities and the ongoing positive development of the core industries, with good capacity utilisation and full order books. The trend was positive in all key markets and regions, especially in the newly industrialised Asian countries and above all in China.



Maintaining infrastructure efficiency over the long term

The forecast growth in transport urgently calls for further investments. DB Netz AG has established an additional funding model, the “Infrastructure Fund” to enable the prompt implementation of minor projects.

With an increase of 1.6 per cent, operating performance on the rail network continued its recovery last year. This has meanwhile fully compensated for the decrease in 2009 resulting from the economic crisis. This growth was attributable primarily to the rising demand for rail freight transport owing to the stable economic situation. As in previous years, non-DB railways again succeeded in improving their share of total operating performance and handled 219 million train-path kilometres, so that their market share in terms of train-path kilometres exceeded 20 per cent for the first time.

Train path applications down for the first time in years

In preceding years, the number of train path applications had risen steadily. However, at a total of 55,554 applications, demand for the 2012 working timetable showed a slight year-on-year downturn of 0.8 per cent for the first time in years. Nonetheless, this is still an increase of 19 per cent compared with 2008. The overall increase of the previous years inevitably led to a higher number of conflicts (applications which over-

lap in terms of time or route). In the past, the decision-making procedures prescribed by law only had to be invoked for a few individual applications. In the greater majority of all cases, conflicting applications could be resolved by mutual agreement in the course of the coordination procedure offered by DB Netz AG. This was also the case for the present 2012 working timetable, once again confirming the quality of this procedure: although the total number of 55,554 applications involved conflicts in approximately 12,500 cases, the coordination procedure failed to achieve a solution only in 27 cases, where the train path was ultimately awarded on the basis of the official decision-making procedure. This means that applications are ranked according to legally defined priority regulations. If several applications have equal priority, they are ranked according to the infrastructure charges. If a solution is still not found on the basis of these criteria, the top price procedure is then invoked. However, this has never yet been required, and nor was it necessary for the 2012 working timetable.

The significant increase in the number of train path applications in preceding years resulted first and foremost from the fact that plans for construction



In addition to the high number of train path applications and the significant increase in transport volumes, taking the numerous construction projects into account imposes stringent demands on planning the working timetable.



work were taken into account to a greater extent when planning the timetable. Compared with 178 construction projects included in the working timetable for 2008, the figure had risen to 752 by the 2012 working timetable. However, it appears unlikely that the numbers will continue to increase on that scale over the coming years, as the present level has reached the limit imposed by the complexity of compiling the working timetable.

Providing information about construction projects at an early stage benefits DB Netz AG's customers, as they can bear the planned work in mind when submitting their train path applications and consequently obtain greater planning certainty. This method imposes considerable demands on DB Netz AG when compiling the timetable. The preparations for drawing up the working timetable actually begin when the basic planning data is supplied to the railway undertakings 17 months before the new timetable comes into force. The procedure, also known as "Running and Engineering", was developed in detail in consultation with the Federal Network Agency and has already proved so successful that neighbouring European infrastructure managers have expressed their interest in the concept.

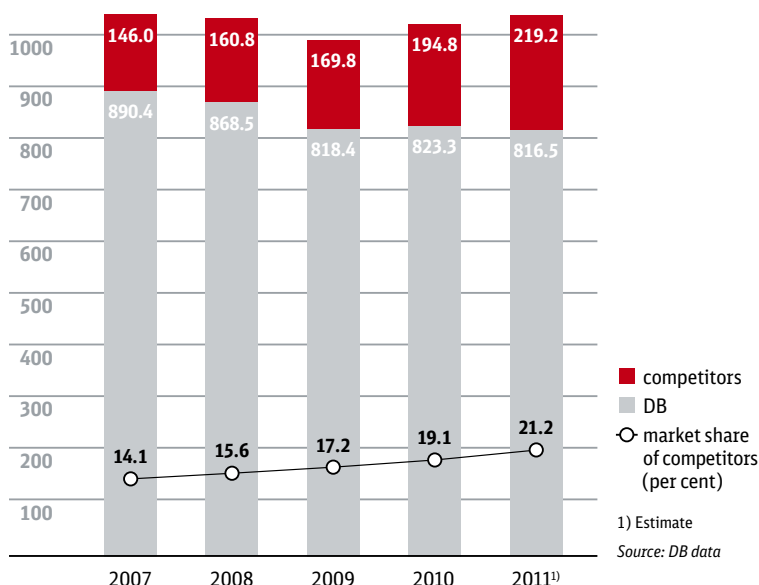
International corridors are intended to benefit international freight traffic

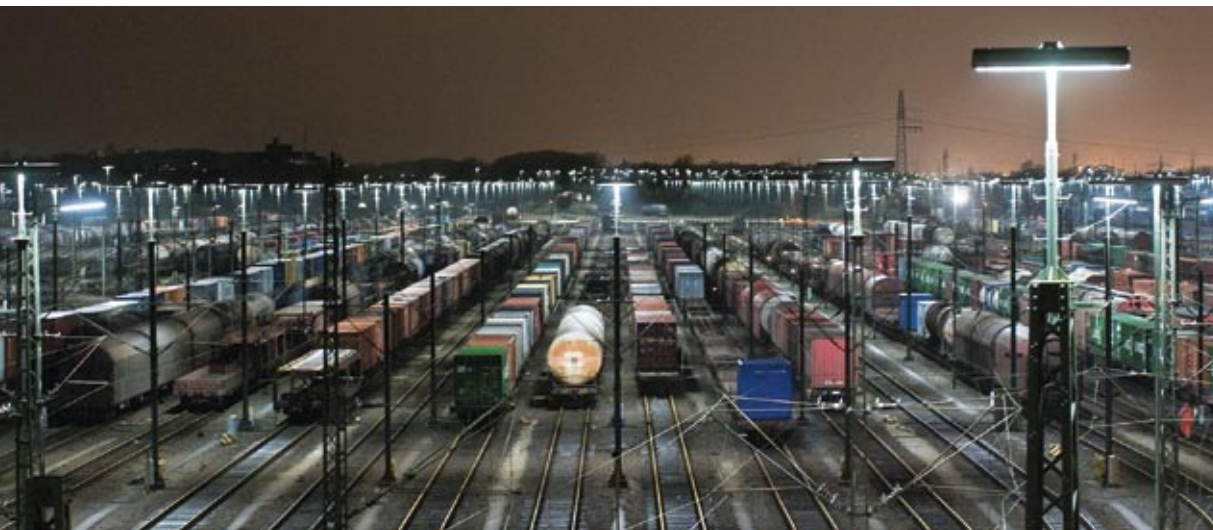
The volume of traffic on the rail network already leads to substantial congestion, especially on the central corridors. DB Netz AG has already had to declare certain lines officially congested in accordance with the Railway Infrastructure Usage Regulations. These include, amongst others, the Würzburg – Fürth route and parts of the Upper Rhine line. Transport experts predict a significant increase in operating performance on German rail infrastructure over the next 15 years.

The Federal Ministry of Transport forecasts an increase of seven per cent for rail passenger transport, up to just over 91 billion passenger-kilometres, by the year 2025. The primary growth driver is expected to be a further increase in freight transport, where the Ministry forecasts traffic performance of almost 152 billion tonne-kilometres for the year 2025, equivalent to growth of 34 per cent relative to the year 2011. The European legislator has promoted international freight transport

Competitors have market share of more than 20 per cent for the first time

(based on domestic operating performance of DB Netz AG in billion train-path kilometres)





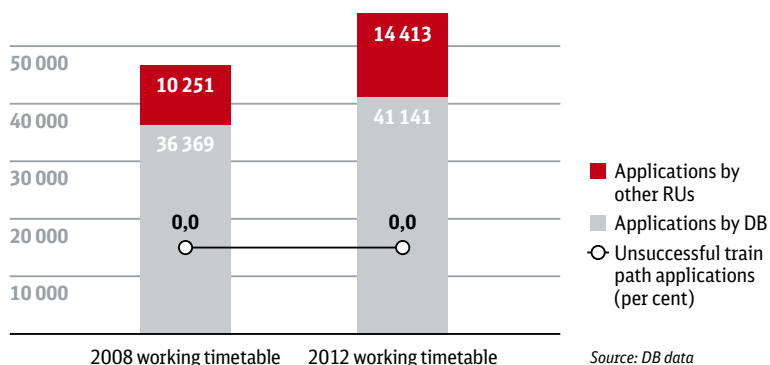
The forecast increase of both rail freight (left) as well as rail passenger transport (far right) means the planning engineers (right) will be faced with increasingly complex tasks in future.

routes in Regulation 913/2010, which entered into force in November 2010. On adopting this legal act, the EU resolved to establish an initial eight international freight transport corridors in the interests of improving the marketability of this price-sensitive transport sector. As a centrally located transit country, Germany plays a key role in this concept and has three corridors. This measure has far-reaching consequences for the infrastructure managers of the Member States, and therefore also for DB Netz AG: the infrastructure manager is obliged to give priority treatment on these corridors to international freight transports by timetable year 2015 (for Corridor 1) and 2017 (Corridors 3 and 8), for example by compiling certain defined train paths for international freight trains eleven months before the new working timetable comes into force and providing this information to the corridor one-stop shop for priority

allocation in the working timetable. This poses serious challenges for the infrastructure manager as no actual figures for demand, but only empirical values and forecasts are available at such an early stage, months before compilation of the working timetable. DB Netz AG came to the conclusion that the provision of defined train paths prior to compilation of the working timetable is only possible if the train paths are offered in a standardised and systematised procedure and has therefore decided to offer its customers "through-going international catalogue train paths", i.e. pre-arranged and internationally coordinated train paths. To test the practicability of such a scheme for implementing the requirements of the EU Regulation, DB Netz AG already offered such train paths for the 2012 working timetable and has extended the range of catalogue train paths available in the 2013 working timetable.

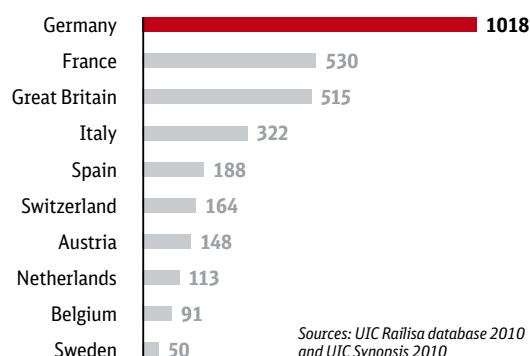
Successful train path compilation by DB Netz AG

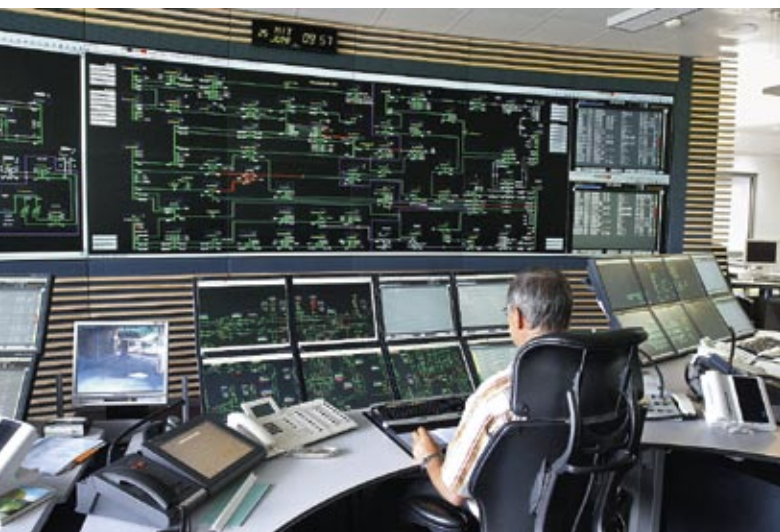
(Almost all conflicts could again be resolved amicably)



Germany has highest operating performance in Europe

(Comparison of 10 countries in 2010; billion train-path km p.a.)





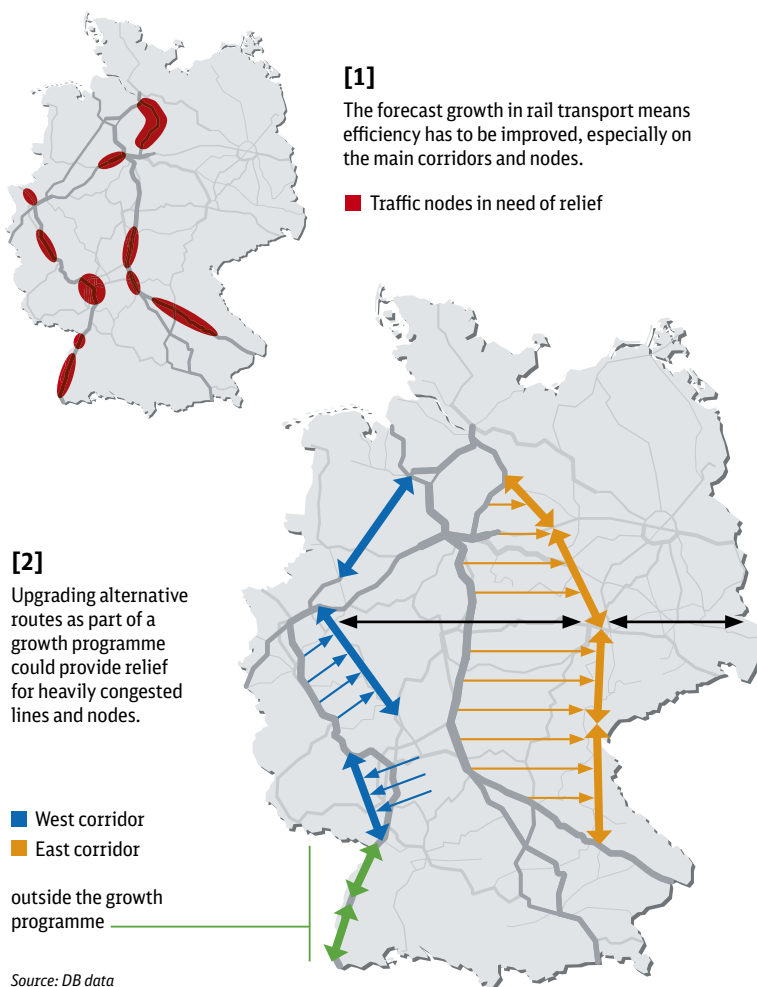
These catalogue train paths are also new territory for the customers and can legitimately be likened to a changeover from tailor-made to “prêt à porter”. Another reason to view the EU Regulation with reservation is that the obligation to provide international freight train paths at such an early stage ties up capacity, even though it is not clear whether or to what extent there will actually be demand for the train paths. However, this is of crucial importance, especially on the highly congested German rail network, large parts of which are used by an intensive mixture of freight trains alongside regional and long-distance passenger trains; the latter category in particular consists primarily of capacity-intensive regular-interval services. An important objective for implementation of the EU regulation is therefore to ensure that the resulting benefits for international freight traffic cause minimum negative impact, especially on regular-interval passenger services. It is exactly in terms of this aspect that the provision of train paths which have been pre-arranged by the infrastructure manager would appear to be a practicable solution.

Transport growth calls for systematic infrastructure upgrading

It is already evident from the increases in transport volumes forecast for the medium and long term that further capacity bottlenecks on the central transport corridors and nodes will be unavoidable. Prompt improvement of infrastructure efficiency is therefore a matter of the greatest urgency. This could be achieved, on the one hand, by more efficient use of the existing infrastructure. In addition to further optimisation of the timetable and operating sequences, one potential approach could be the systematic management of demand, for example by including line-based capacity utilisation components in the infrastructure charging system.

Infrastructure: forecasts and measures

Anticipated infrastructure bottlenecks [1] and relief by shifting traffic [2]





Infrastructure maintenance (left) costs DB a minimum of EUR 1 billion per annum. A container train in seaport hinterland transport. DB Schenker Rail and other freight operators also lease locomotives to handle transports (right).

This would lead to more evenly balanced utilisation of the infrastructure capacities and consequently increase capacity as a whole. On the other hand, ensuring sufficient and targeted investments is of central importance for the future development of the rail mode.

Forecast transport burdens should play a stronger role in planning investments

The present logic for funding investments in rail infrastructure is essentially based on two central premises: on the one hand, the provisions of the Performance and Financing Agreement between the Federal government and DB govern the upkeep of existing infrastructure. Pursuant to that agreement, the government is obliged to provide funding of EUR 2.5 billion per annum until the year 2013 for investments in existing infrastructure. In return, DB guarantees to maintain the agreed infrastructure quality and to spend a minimum sum of EUR 500 million per annum. of its own funds

Transport Infrastructure Plan. The projects specified in the requirements plan refer primarily to large-volume and long-term investments which are of supra-regional importance for improving the efficiency of rail infrastructure. The contents of the requirements plan are decided solely by the Federal government. The upgrading and new-build projects are financed largely with Federal government funds (with an average of EUR 1.2 billion per annum in recent years), but also with funding provided by DB.

In the meantime, it is undisputed that the present financial framework will not permit execution of all the projects contained in the current requirements plan within a reasonable time, i.e. by 2025 at the latest. This still applies despite the Rail Financing Cycle which was launched last year and which envisages further investments amounting to a further EUR one billion to implement the measures contained in the requirements plan between 2012 and 2015; DB has calculated that a further sum of approximately EUR 600 million per annum would be required to remedy the insufficient funding for the requirements plan. In view of the scarcity of public funding, it can reasonably be assumed that no such increase in rail infrastructure financing will be forthcoming, either now or in future. It is therefore a matter of the utmost priority to ensure that the scant financial resources available are deployed in projects where they are likely to yield maximum benefits. Accordingly, the forecast traffic volumes should be taken into account to a greater extent when planning future investments to ensure that the anticipated capacity bottlenecks can be remedied in time and to increase infrastructure efficiency to cope with the higher transport volumes.

As the greater part of the funds for the upgrading projects contained in the requirements plan is already tied up over the long-term in existing projects, the Federal government will be unable to reprioritise

The present financial framework will not permit execution of all the currently required projects until 2025.

on replacement investments. DB also funds the entire maintenance work with an annual sum of at least EUR one billion from its own financial resources. New-build and infrastructure upgrading projects, on the other hand – apart from special programmes such as the “Immediate-Action Programme for Seaport Hinterland Transport” – are determined within the scope of the rail requirements plan which forms part of the Federal



projects within the foreseeable future. In order to systematically ease the strain on the principal routes and nodes, additional special programmes therefore have to be launched outside the scope of the requirements plan. The projects included in the present Immediate-Action Programme for Seaport Hinterland Transport are already increasing capacities for carrying the anticipated significantly higher quantities of container traffic from the seaports to the hinterland.

Another important project is the “Growth Programme” drawn up by DB to ease congestion on the existing key transport corridors by upgrading alternative routes and nodes, especially on north-southbound corridors. DB has already submitted a proposal for concrete implementation plans to the Federal government. The funding – and consequently the feasibility – of this programme is still undecided.

The Infrastructure Fund is a new instrument for financing investments with DB resources

Apart from the major and supraregional upgrading projects, there are also a large number of small, isolated measures which could be used to systematically eliminate local bottlenecks and increase infrastructure capacity at relatively short notice. The problem is a “gap” in the structure of the existing framework for capital investments: because it does not include any provisions for such comparatively minor projects, no financial resources have been available in the past. The funds covered by the Performance and Financing Agreement have to be invested in the existing network and are consequently not available for such projects. Nor are these projects included in the requirements plan and, in view of the vast number of projects already contained in that plan, it is unrealistic to assume that new projects will be included within the foreseeable future. Last year, DB Netz AG therefore set up an additional new financing

model, the “Infrastructure Fund”, which is used to implement minor projects for which no funding would be available through the customary channels in the near future. These measures, which involve first and foremost capacity expansion, elimination of bottlenecks

Infrastructure efficiency has to be improved in view of the increasing transport volumes.

and quality improvements, are financed primarily with DB Netz’ own resources. The Infrastructure Fund currently covers a total of 49 construction projects with a volume of EUR 130 million, which are scheduled for implementation by 2015. They are the result of a multi-stage selection process from amongst almost 1,000 proposals submitted not only by the company’s own departments, but also put forward by customers as well as the Association of German Undertakings.

To be considered for the Infrastructure Fund, the project had to involve a maximum investment sum of EUR 10 million, be suitable for implementation within a period of between one and five years and, in particular, the measures had to yield good economic efficiency for DB Netz AG. The Infrastructure Fund is therefore an effective supplementary instrument for demand-driven infrastructure development. However, as the commercial viability of infrastructure projects remains the exception rather than the rule, the scope for application of this new financing instrument remains limited. The standard financing channels with co-funding from the Federal government will accordingly remain the central pillar for rail infrastructure funding in future.

Interview Frank Miram of DB AG interviews Dr Iris Henseler-Unger, Vice-President of the Federal Network Agency, about the current challenges of regulation.



“The rail sector benefits from competition”

Dr Iris Henseler-Unger took over the chair of the Independent Regulators' Group – Rail (IRG-Rail) in 2012. In the interview, she comments on central issues that affect the rail market.

According to the latest market survey conducted by the Federal Network Agency, the market players give increasingly high ratings to infrastructure access conditions, awarding the second-highest grade of “good” in some cases (e.g. allocation of train paths). Do you also believe that the framework conditions have improved in recent years?

On the whole, we have seen progress over the past few years and I would like to claim the credit for at least part of that success on behalf of the Federal Network Agency. Our unflagging commitment has led to fairer competition conditions. The regulated areas were given better ratings in the survey than those areas without regulation, also in the case of access conditions, the example you chose.

There are important areas where further action is still required, for instance the sale of tickets for passenger transport, or the purchase of traction current. Even if train path allocation was rated positively overall, some aspects are still not satisfactory, such as coordination in connection with planning construction work. One of the primary objectives of the survey was to identify those areas of regulation where the market believes action is most urgently required. The legally prescribed non-discriminatory access to rail infrastructure applies equally to every single market player. In other words, it is not enough if the greater majority of the undertakings rate certain processes positively. It is the actual individual case which is decisive.

Let us consider the liberalisation processes in different sectors or the experience in different countries: can a strong regulatory authority enable fair competitive conditions if the market structures remain integrated?

Only strong regulatory authorities can effectively help to give competition a chance. This means they have to be independent and vested with the ne-

cessary powers. This has proved to be a decisive requirement for successfully opening up the market in all liberalised sectors. In the energy market, the liberalisation process in Germany was only successful and only resulted in tangible benefits for the consumer when responsibility for regulation was entrusted to the Federal Network Agency in 2005, after years of self-regulation.

As far as the railway markets are concerned, it is exactly those countries which have established the most powerful regulators – for instance Austria, the United Kingdom and Germany – which have been the most successful. However, that certainly does not mean we can afford to rest on our laurels.

The Federal Network Agency has always taken the stance that the degree of unbundling that is chosen in each case has to be accompanied by a suitably designed regulatory framework. Different options are, of course, conceivable. Integrated structures and fair competitive conditions are not automatically contradictory. Or to put it more simply: the lower the degree of unbundling, the stronger powers that have to be granted to the regulatory body. No unbundling at all and a weak regulator are a poor solution for the customers and for the economy as a whole.

How do you rate the development of competition compared, for example, with France and where do you believe there is need for action at present?

The share of competitors in the rail freight and regional rail passenger markets may only have risen slowly, but it has risen steadily. I believe the rail sector has benefited significantly from the variety of providers. New products have been launched in the rail freight market. The public purse has saved costs by conducting tender procedures for regional rail passenger services which it could then invest in expanding the range of regional services provided. The trends for



Dr Iris Henseler-Unger believes that new bureaucracy, such as a European regulatory authority, is unnecessary.

the long-distance passenger sector, however, are not so positive and no significant competition has emerged so far, despite the scope provided by the legal framework. I would like to see stronger stimuli in that sector and would welcome new impetus.

Germany should be an interesting market because of its size, its position in Europe and its economic efficiency. However, in an international ranking, the share of competitors in Germany in terms of traffic performance is only in the mid-range, although the number of active players is comparatively high.

France opened up its rail freight market in 2007, in other words ten years later than Germany, and its passenger transport market is still closed to newcomers. However, competitors – including DB Schenker –

tion is the prime driver for products of attractive quality and at fair prices. Accordingly, we would greatly welcome the systematic continuation of liberalisation of the European rail passenger market.

How do you regard the stricter conditions that will result from the recast of regulatory law at European level?

I would not describe the amendments and addenda contained in the recast as “stricter”. In many cases, they simply improve the present regulations and specify them in more detail. Amongst other things, the recast will optimise access to service facilities, impose clearer standards for cost accounting and better regulations for observing the market. The recast will strengthen the national regulatory authorities, for example in terms of their independence. We essentially endorse the greater part of the proposed changes. Tightening up and adjusting the framework conditions is in the interests of all market players, as this will give them more planning and legal certainty and make their existing rights and obligations more transparent. One could, at times, wish for even clearer and more precise regulations.

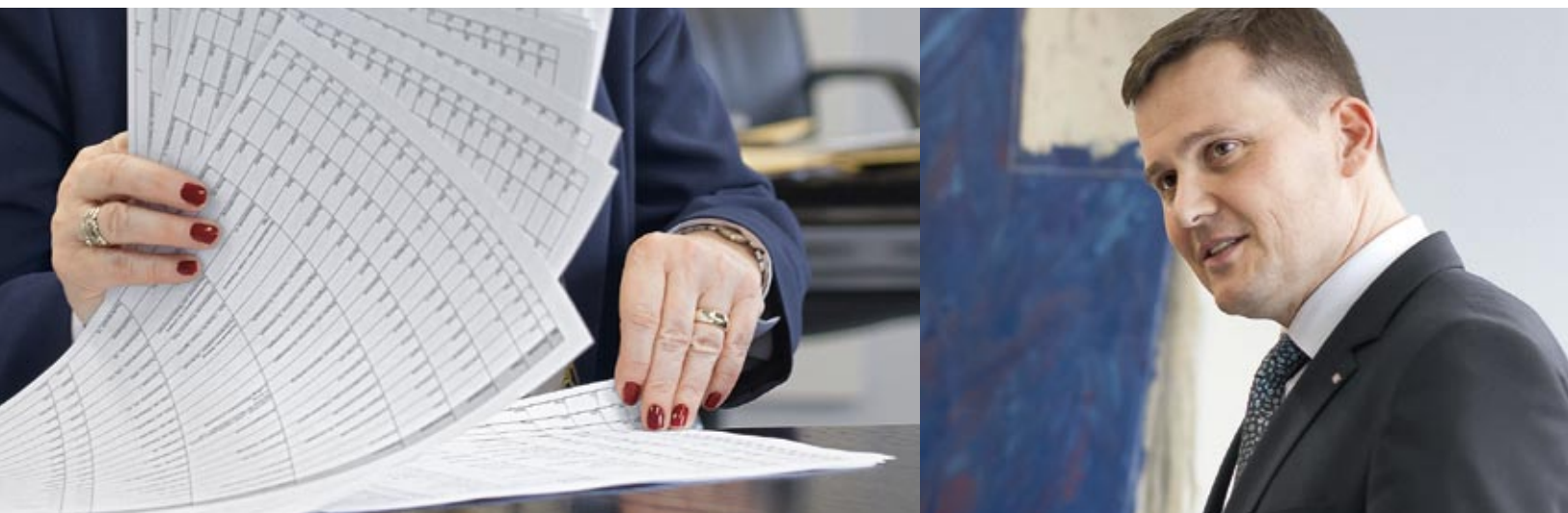
What do you think about the continuing liberalisation of the European passenger transport market envisaged by the fourth railway package and the plans to create a European regulatory authority for the rail sector?

Opening up all rail markets in all Member States of the EU is the logical next step in the liberalisation process, in view of the Single European Market. In Germany, our experience of rapid and voluntary liberalisation to admit competition to the regional passenger transport market has been good. In my opinion, liberalising only international transport – and even then subject to restrictions – has always been no

Only strong, independent regulatory authorities can effectively help to give competition a chance.

meanwhile account for a market share of approximately 20 per cent of the French rail freight market. Over that period, SNCF has lost significant transport volumes, reported operating losses and the total transport volumes on rail in France have declined severely in recent years.

In my opinion, that can also be attributed to the fact that the market was protected for too long. The railway undertakings in Germany – both DB and its competitors – have had to succeed in the face of competition for far longer because the market was liberated at such an early stage. They are therefore better equipped to cope in a competitive market. Competi-



more than a half measure which has led to new complications. Full liberalisation creates clear conditions and that also benefits German railway undertakings as they have new opportunities to do business in other EU Member States, such as France. But we should not forget that opening up a market does not automatically guarantee success. Without strong regulatory authorities, it is far harder for competitive structures to prevail.

I reject the idea of a European regulatory authority. In most cases, our joint European objectives can be achieved more tangibly, quickly and efficiently by strong national regulators and cooperation between these bodies. There is no need whatsoever for new European bureaucracies which are far removed from the actual problems, corporate structures and circumstances in the individual national markets. The recast therefore also rightly opts for boosting the independence of the national regulatory authorities and their powers. The European Independent Regulators' Group "IRG-Rail", established last year along the lines of the telecommunications and energy sectors, is a suitable platform for cooperation in international questions, for drawing up joint principles and practices, and therefore ensuring consistent regulation.

Regulation (EU) 913/2010 entered into force at the end of 2010 with the aim of improving the competitiveness of international rail freight transport. The individual requirements of the Regulation are currently being implemented. How do you view the product-driven approach of pre-constructed train paths and reserved capacities from the economic point of view?

Demand-driven and non-discriminatory train path planning by means of pre-constructed train paths could lead to more efficient utilisation of rail capacities. This could be achieved, for example, by including

exact plans for overtaking, specifying train parameters or by separating the different transport categories in terms of time or routes.

However, it has to be ensured that the pre-construction of train paths does not restrict the necessary scope for flexibility. Capacities still have to be reserved for occasional transports. Due attention has to be paid to those provisions of the Regulation which deal with the highly important segment of transports which are planned at medium and short notice.

The rail infrastructure managers of the corridors concerned have to anticipate the requirements of the market players and translate these requirements into pre-constructed train paths which are in line with demand. At the same time, the national regulatory authorities also have to ensure that the train path construction process is non-discriminatory.

Do you believe that implementation of this Regulation will ensure that the interests of the transport undertakings, especially passenger carriers, are sufficiently protected?

Under the Regulation, the interests of the transport undertakings and the regional transport client bodies are to be documented for the first time in a comprehensive study of the transport market. The study will investigate the changes in transport which are observed following establishment of the corridor and the changes which are anticipated. The Regulation stresses at several points that the requirements of passenger transport are to be respected. Despite the divergent requirements of train path planning, a system of pre-constructed train paths could in fact make a major contribution towards better harmonisation of freight and passenger transport, as capacity bottlenecks could be recognised earlier and more objectively than before. Moreover, the Regulation also includes an investment plan to counteract bottlenecks.



Dr Iris Henseler-Unger and Frank Miram discuss whether the new railway law pays sufficient attention to the specifics of the rail sector. They do not agree on this matter.

A legislative project which is currently in process at the Federal Ministry of Transport deals with the ongoing development of regulatory law. How does this project tie in with the European legislation debate? Are incompatibilities to be expected? Will we be faced with a further “regulation recast” in the near future?

The draft legislation planned by the Federal Ministry of Transport actually anticipates many items which will also be dealt with as part of the recast. The drafts for the national and European laws are largely compatible. However, if the recast deals with totally new subject matter, especially in the form of a directive with compulsory transposition, this could also be implemented in the course of the national legislative procedure. Based on the present state of negotiations, I can only hazard a brief guess about whether and to what extent this will be the case, but I assume it would refer only to a few individual items.

It is vital to remedy the known deficits of the present legal provisions in order to strengthen the inter- and intramodal competitiveness of rail transport. This is surely in the best interests of all actors. We should aim for improvements in our national legislation as soon as possible and not wait until the European legislative process has been concluded.

One core element of the new law will be the introduction of a performance regime for infrastructure and station charges based on the “price cap” method. What do you expect this to achieve?

The focus to date has been on a regulatory concept that could stand on its own or provide a basis for a subsequent performance regime. The aim is to raise efficiency potential at the rail infrastructure managers and reduce costs. That is a step in the right direction. The full-cost standard which currently applies does not offer any incentive whatsoever and also har-

bours the risk that a monopoly undertaking could use its position to establish or maintain monopoly structures in the downstream market.

What will the new law change?

The draft bill currently under discussion will enable the introduction of a performance regime by means of a regulation issued by the Federal Ministry of Transport. We believe that this should go through as soon as possible. We have already delivered comprehensive groundwork so that the regulation could be issued parallel to the legislative procedure.

I advocate the prompt introduction of a performance regime, as we already suggested back in 2008, on practical grounds alone. Compared with a regulatory system which is based on annual approval, this would reduce the administrative work both for the railway undertakings and for us, because it would set the price paths for several years. This gives the rail infrastructure managers and the operating companies more planning certainty. At the same time, it provides more incentive for the infrastructure managers to raise their efficiency potential because they themselves would initially benefit from all over-budget profits during the regulatory period.

Moreover, I do not believe this would impair investment activities. On the contrary: it has become apparent in the other regulated sectors that regulation which focuses on efficiency not only promotes better performance, but also provides the right incentive for efficient investments.

Do you believe this could lead to a reduction in infrastructure charges?

When it comes to monitoring charges, we are not primarily concerned with reducing charges, but ensuring that the charges are reasonable and fairly determined in a transparent and logical process. In the



energy sector, for instance, we have seen increases in grid charges of several per cent this year. We can provide full details of the grounds for these increases. Monitoring by the Federal Network Agency has boosted confidence in the market, which in turn encourages investments. Accordingly, I believe that the regulation proposed in the draft bill is an important stepping stone on the way to achieving competitive rail infrastructure.

How do you regard the plans to apply the regulatory concept of the telecommunications sector, which is based on the costs of efficient service provision, to the rail sector? Does this concept adequately reflect the specifics of the rail sector, such as the lack of purely commercial operations and co-funding by the state?

The costs of efficient service provision have proved to be a good benchmark. This will also be the case in the rail sector, provided that the details are elaborated correctly. For instance, the entire costs of the obligatory and main services have to be included and certain obligations to provide information have to be specified.

It goes without saying that regulation has to take the special characteristics of the rail sector into account. Nor are there any plans to apply the regulatory concept from other sectors lock, stock and barrel. However, state financing and efficiency regulation are not a contradiction in terms, as is sometimes claimed. It is, in fact, possible to pay due attention to the lack of purely commercial operations and co-funding from the state. As I see it, a stable and efficiently structured Performance and Financing Agreement on the one hand, and an efficiency-based regulation of charges are mutually dependent. The infrastructure quality prescribed in the Performance and Financing Agreement will ensure that increases in efficiency resulting from

the regulation of charges will not be effected at the expense of quality. On the other hand, the efficiency-based regulation of charges also ensures that compensation for declining state funding, as envisaged in the Performance and Financing Agreement, will not take the form of price increases and therefore at the expense of the market players. Moreover, this opinion is also corroborated by the independent Monopolies Commission in its 2011 Special Report on Rail.

If productivity increases were available for distribution – where would you place the emphasis: lowering the infrastructure charges or reducing the public funding for rail infrastructure?

Productivity increases can be used not only to lower infrastructure charges but also to reduce public funding for the rail sector – or even for efficient investments in infrastructure by the infrastructure managers themselves. As the authority responsible for monitoring competition, the Federal Network Agency pleads that these increases should be used to lower the

The foreseen regulatory concept has to take the special characteristics of the rail sector into account.

infrastructure charges, as this would benefit both the users of rail infrastructure and also the public purse, as a large part of the state aids from the regionalisation funds flows into the infrastructure charges. Lowering the charges would enable the regional rail client bodies to order more transports or make additional targeted investments in rail infrastructure.

Regulatory Policies

The railways in Europe are repeatedly confronted with new requirements of European and national legislation. At the same time, the European rail sector increasingly suffers from insufficient capital. This is also noticeable in the Polish transport market.

European rail policy at the crossroads

A more pragmatic approach to transport policies on the part of the European legislator places great demands on the railways in Europe. The market has to cope with high deficits and structural challenges.

Over the last 20 years, the EU has made intensive efforts to reorganise the European railway markets. On the one hand, the object is to create a Single European Railway Area, and on the other hand to create a dynamic rail market with keen competition. By introducing three railway packages and one technical package, the Commission has focused its work on opening up the rail markets to competition, harmonising railway technology and developing one single European infrastructure.

Before it continues these activities with a fourth railway package, it is time to take stock of what has actually been achieved as a result of the Commission's efforts to date. On closer inspection of the present market circumstances, it becomes evident that the actual developments in the railway market are not moving entirely in the direction envisaged by the Commission.

Financial difficulties impede development

The insufficient refinancing capacities of the railway undertakings and the high national debt levels in Europe are crucial aspects of the present market situation which are progressively causing more and more financial difficulties for the entire European rail sector.

The increasingly tight state budgets force governments to strike the difficult balance between urgently required investments in maintaining the existing network and the implementation of cost-intensive political initiatives and legislative measures imposed by the EU. The latter include retrofitting infrastructure and locomotives with ETCS command/control systems, the establishment of a trans-European rail network and increasingly strict regulation. The German government, for example, is currently unable to provide the estimated EUR 4.5 billion that would be required to equip the entire rail network with ETCS. It has there-

fore announced its intention of funding an interim solution until all foreign freight train locomotives are fitted with ETCS. This involves the provision of specific transmission modules which will enable these locomotives to operate in Germany in the meantime.

The financing problems faced by the railway undertakings have become even more severe in recent months as the ratings of many railways have been downgraded. In view of the tense financial situation of the majority of all European railways, this is worrying. Only very few railways have made progress in raising their profitability. DB AG, for instance, is one of the few railways which have succeeded in doing so. The company now boasts a stable EBIT margin which is significantly higher than the European average (cf. graphic on page 37). Nevertheless, even DB AG is still not recovering its cost of capital at present. As a result of their financial problems, some railways have had no choice but to withdraw from individual areas of business and sell off operating units. This has particularly affected companies in which private capital had been invested: the only remaining major railway undertaking in the European market which is not wholly owned by the state is the French Veolia Transdev, parts of which could, however, be sold off in the near future owing to the financial difficulties of the parent company (Veolia Environnement), one of its two shareholders. Another passenger transport company with private capital which is still in business is the British plc FirstGroup. Last year, however, it drew the logical conclusion from the unsatisfactory earnings prospects in mainland Europe and divested itself of its activities in Denmark and Germany.

On the whole, there is hardly any private capital in the market – it funds less than four per cent of total traffic performance. Virtually no private investors have shown an interest in the current privatisation process of the Polish state railway PKP.



Structural challenges in the market from the incumbents

As the European rail market has not succeeded in attracting private capital on a long-term basis, the former incumbents have practically carved up the market amongst themselves. They are also at the back of the latest mergers: in 2010, SNCF acquired the majority stake in the former private provider Keolis. DB acquired Arriva, one of the leading private providers, the same year and Trenitalia took over Arriva's German business.

The challenge arising from this situation is that many former state-owned railways are still not effectively organised as private-economy enterprises. This is frequently because the governments baulk at adjusting the personnel structures of the incumbents to a competitive level, so that the former incumbents have to shoulder high personnel expenses and, in many cases, additional pension commitments. France and Italy, for instance, are currently arguing about the future of the present work organisation and expensive social privileges.

The situation is aggravated in many cases by irrational margin demands from the state railways, which make no effort to generate profits. As long as some railway undertakings continue to operate under such conditions and distort the market, the Member States will still have to intervene in their national market structures in order to safeguard the future existence of their railway undertakings. This could ultimately have a restrictive effect on the European railway market.

Divergent focus of transport policies in the EU

At the moment, there is no discussion of these facts and circumstances in progress at European level, al-

though they are decisive for the future focus of European transport policies. Considering the present market environment, it is in the interests of both the EU and the Member States to create structures which permit both competition as well as successful financial results. "Simulated" competition for market shares amongst unprofitable state-owned railways which permanently rely on substantial support from their governments will not achieve the intended objective. The Commission and the Member States also hold different positions with regard to the economic organisation of the incumbents. Germany's position is enshrined in its constitution, which states in Article 87e that Federal railways are to be managed as "business enterprises in a private-law form". In consensus with the objectives of its owner, DB interprets this as the duty to manage all value added sectors of the DB Group – inclusive of infrastructure – on a commercial basis, i.e. with the intention of making a profit. In concrete terms, DB therefore strives to finance its business as far as possible without assistance from the national budget. As stated in a position paper in March 2012, however, the European Commission is pursuing a different policy and believes that it is not necessary for rail infrastructure managers to earn their costs of capital. On the contrary, the Commission envisages a European rail infrastructure manager which is committed to fulfilling a public service obligation and not aimed at operating profitably. It is essential that the Commission and the Member States reach a fundamental understanding with regard to such an elementary matter, as competition will otherwise remain permanently distorted and the notion of a Single European Railway Area will remain no more than an unattainable dream.

The primary objective in the ongoing design of the Single European Railway Area has to be to raise the competitiveness and attractiveness of rail trans-

Owing to the high costs of ETCS (left, antenna on a locomotive), the Federal government is considering an interim solution. Political circles (right, the chamber of the EU Parliament) show little interest in the financial difficulties of the European rail sector.

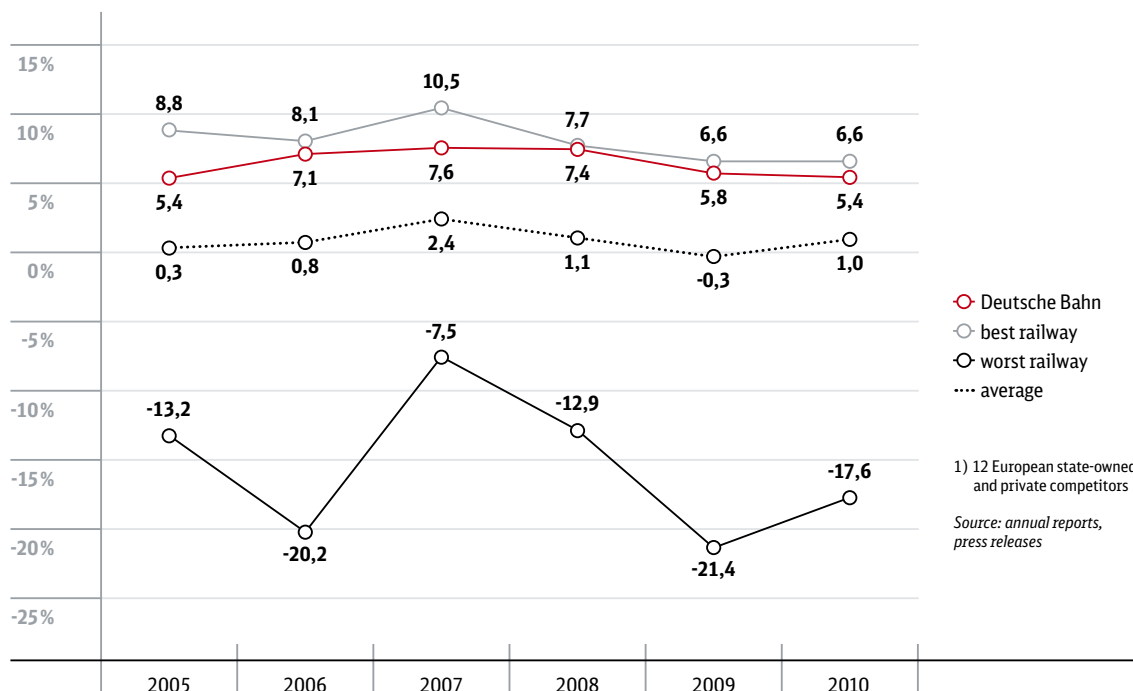


port on the basis of fair competition and to establish an efficient rail mode in Europe which attracts private capital and thus benefits both consumers and the public purse. In actual practice, this means full liberalisation, comparable regulatory standards, European framework conditions for efficient rail structural models and profit-oriented infrastructure managers, the abo-

lition of technical competitive impediments (for instance in connection with the certification of rolling stock) and a new approach to collaboration with the railway industry (in respect of standardisation, quality and costs) and finally, a reliable long-term financing basis for infrastructure and fair intermodal competitive conditions.

EBIT margins of DB AG's European competitors¹

DB has a stable EBIT margin which is significantly higher than the European average (per cent)





In its White Paper “Towards a competitive and resource efficient transport system”, the EU Commission – President José Manuel Barroso, left – states climate protection and energy efficiency as central objectives. Far right: the DB wind farm at Maerkisch Linden.

EU impetus on future transport policies

Some political initiatives of the Commission are heading in a new direction. In addition to the ongoing development of a Single European Railway Area, the EU is also aiming to improve cooperation with its neighbouring regions.

In its 2011 White Paper, the Commission stated ambitious targets for a modal shift in favour of rail as the future strategy of a sustainable transport policy. The recast of the first railway package is also aimed at strengthening the regulatory framework. The Commission’s infrastructure policy focuses on upgrading the European rail corridors and better interlinking of the different transport modes in a trans-European transport network.

The Commission is thus continuing its strategy for the ongoing development of a Single European Railway Area. In order to enforce Community law, it has initiated and upheld infringement proceedings against those Member States which, in the Commission’s opinion, have not adequately transposed the relevant Community legislative acts. The recast – i.e. the draft bill for revising European rail regulatory law – is to be adopted before the 2012 summer recess. Core items of the recast involve stronger regulation of access to service facilities, such as marshalling yards and maintenance depots, strengthening the independence and powers of the regulatory authorities, improving funding for rail infrastructure in the form of long-term financing agreements, as well as detailed regulations

for determining the infrastructure charges, inclusive of strict requirements for regulatory accounting. For the year 2012, the Commission has announced its intention of presenting its plans for a fourth railway package with which it will initiate the next steps it considers necessary for the ongoing development of European rail transport.

Commission shifts the focus of its transport policy strategy

On 28 March 2011, the Commission published its White Paper on Transport “Towards a competitive and resource efficient transport system”, in which it expresses its views on the strategic course for the development of mobility in Europe and specifies objectives and key areas of work for the future European transport policies.

The major challenges set out in the White Paper are making the transport sector less dependent on fossil fuels, such as oil, improving climate protection and energy efficiency, and better integration of the different transport modes and networks. This is also the first time that the Commission states a specific goal for



the reduction of greenhouse gases by transport (reducing CO₂ emissions by the year 2050 by 60 per cent relative to 1990). By 2030, the Commission also endeavours to shift approximately 30 per cent of road freight over distances of more than 300 km to rail and waterborne transport, and to increase that figure to 50 per cent by 2050. By 2050, the majority of all medium-distance passenger transport should go by rail. To achieve that aim, the existing high-speed rail network is to be tripled in length by the year 2030 and the major airports linked to rail by 2050. In that connection, high priority is given to upgrading infrastructure and the systematic elimination of bottlenecks. To finance these measures, the Commission plans amongst other things to involve the infrastructure users to a greater extent by internalising the external costs for all transport modes.

Realignment of the European TEN-T policy

One of the measures announced in the White Paper on Transport involves the realignment of the European Policy for Trans-European Transport Networks (TEN-T). On 19 October 2011, the Commission presented regulation proposals for new guidelines for the establishment of the trans-European transport network and for setting up the “Connecting Europe” facility for the future funding of these networks. The target is to close the existing gaps and eliminate bottlenecks by establishing a harmonised multimodal system which integrates land, sea and aviation networks throughout Europe. The focus will be on the rail corridors.

The method selected for the realignment is a two-tier structure consisting of a comprehensive and a core network. The comprehensive network is designed to ensure access to the core network and will cover those lines with high transport volumes. The objective is to complete the comprehensive network by

2050. The core network will cover particularly important routes which are to be given priority treatment within the comprehensive network. These are scheduled for completion by 2030. In order to promote development of the core network, the Commission proposes the establishment of ten multimodal corridors on the core network. Corridor platforms, chaired by a European Coordinator appointed by the Commission, are to push ahead with the development of these multimodal corridors, six of which affect Germany.

The technical requirements of the Regulation from the DB AG viewpoint

DB welcomes the Commission’s intention of promoting better integration of the different transport modes and establishing a trans-European transport network with added value for Europe. Nonetheless, DB believes that care must be taken to ensure that the proposed corridors do not lead to duplicate structures and additional bureaucracy. Detailed implementation regulations must not encroach on national planning and

The Commission’s railway policy aims at strengthening the regulatory framework with the recast of the first railway package.

budgetary sovereignty. The demands placed on the future rail infrastructure (e.g. ERTMS equipment, electrification, train lengths of 750 metres, 22.5 tonnes axle load) will, however, have a sustainable effect on the future costs of rail infrastructure in Germany. The Commission has estimated that a sum of approximate-



ly EUR 550 billion will be required up to the year 2020 for completion of the core network alone, with EUR 250 billion of that sum earmarked for elimination of the worst bottlenecks.

On the other hand, establishment of the new financing instrument “Connecting Europe” involves a sum of approximately EUR 21 billion for the transport sector. The main burden is still to be borne by the Member States. DB AG consequently believes that the technical requirements prescribed in the Regulation for establishment of the comprehensive and core networks must be subject to planning and financing reservations.

Prospects of better competitive conditions in the Channel Tunnel

In order to permit more competition on the only rail connection between the United Kingdom and mainland Europe, the Commission is urging that the legal framework which applies to the Channel Tunnel should be harmonised with Community law. On 29 September 2011, it therefore initiated infringement proceedings against France and the United Kingdom for insufficient transposition of the first railway package in respect of Channel Tunnel traffic. The proceedings deal with questions of infrastructure charges, the allocation of train paths and the independence of the train path allocation bodies and the regulatory authority.

The Franco-British authority IGC (Channel Tunnel Intergovernmental Commission) is simultaneously revising the safety regulations for the Channel Tunnel. Under the present regulations, trains with distributed drive systems and a length of less than 375 metres are not permitted to use the tunnel. These regulations date back to the 1980s and are specifically geared to Eurostar, which is to date the only company to operate passenger transport services through the

Channel Tunnel. They diverge from the European standards in the Technical Specifications for Interoperability (TSI), which neither prescribe a minimum train length nor prohibit distributed drive. Aligning the safety regulations with the European regulations is intended to enable further operators to enter the market in future.

DB, too, is planning to use the Channel Tunnel to offer services to London with coupled 200-metre distributed-drive trains. Distributed drive is meanwhile considered best-practice worldwide for high-speed trains. Accordingly, apart from the Channel Tunnel, there are no other tunnels which prescribe any restrictions for trains with distributed drive. Nor is there any justification in terms of safety aspects for the minimum train length (375 metres) demanded by the present regulations. DB has substantiated these arguments by presenting comprehensive expert reports, emergency concepts and by conducting a successful evacuation drill with ICE trains in the Tunnel.

In its last statement, the IGC consequently acknowledged that distributed drive could fundamentally be eligible for approval. The tunnel operating company Eurotunnel also wishes to take the Europe-wide TSI standards as the basis for train approval in its proposal for the conditions of use as from 2013. Harmonisation of the safety regulations for the Channel Tunnel with Community law in this respect would be a major step towards including the United Kingdom in the Single European Railway Area.

New impetus for cooperation between the EU and its neighbouring regions in the transport sector

The Commission has recently proposed a new plan of action to enhance cooperation between the EU and its neighbouring regions in the transport sector, which has to date largely taken the form of bilateral and re-

The Commission is urging France and the United Kingdom to align the legal framework for use of the Channel Tunnel with Community law in order to promote competition on the only rail connection between the United Kingdom and mainland Europe.

gional initiatives. In its communication on the reorganisation of transport cooperation with neighbouring regions published on 7 July 2011 and entitled “The EU and its neighbouring regions: A renewed approach to transport cooperation”, it calls for stronger integration of the transport markets of the EU and its neighbouring regions in the interests of enabling faster, cheaper and more efficient transport connections.

In view of the rapid increase in freight volumes carried between the EU and its neighbouring regions, especially to destinations in Eastern Europe and Asia, improving the transport connections is an essential prerequisite for economic growth and social cohesion. At the same time, however, the adverse effects on the environment and society resulting from the increase in transport volumes mean that transport policies for the future have to be sustainable. In the long-distance market in particular, the objective of shifting traffic onto environment friendly rail, which has substantially lower CO₂ emissions per train-path kilometre than other transport modes, stands a good chance of successful implementation.

DB Schenker Rail already offers new and sustainable transport solutions between Asia and Europe: Since summer 2011, there have been regular container train services from China to Germany. Huge economic centres are currently being established in Central China, far away from the Chinese seaports. This will provide further potential for long-distance rail transports to Europe.

Despite the good market potential, however, rail is still unable to exploit the inherent competitive advantages of the rail mode on the long-haul Eurasian corridors: the vast number of technical, administrative and legal obstacles are both time-consuming and expensive and moreover constitute serious competitive discrimination compared with other transport modes.

Legal policy trends in international transport law

In this connection, the lack of “legal interoperability” in rail transport between the EU Member States and their neighbouring regions is of central importance: rail is the only transport mode that does not have a global UN Convention which governs questions of transport law. In contrast to its competitor transport modes, rail has to comply with two different legal regimes when handling transports: whilst the provisions of COTIF/CIM (Convention concerning international carriage by rail/Uniform rules concerning the contract for international carriage of goods by rail) apply in the European area, the provisions of SMGS (Agreement on International Goods Transport by Rail) apply in Eastern Europe and Asia.

This is a serious obstacle when offering global rail services on the trans-continental corridors between Europe and Asia: the additional interruption of the transports and re-consignment of all rail freight, which involves amongst other things changing over the consignment note to the other legal system, leads to substantial time losses and additional costs. Working at association level, the railways have therefore drawn up a common CIM/SMGS consignment note which combines both the required transport papers in one single document. As the next step, they plan to draw up general terms and conditions which can serve as the contractual basis for Eurasian transports.

Better transport connections between the EU and its neighbouring regions are vital for economic growth.

However, work at association level is not enough. Over the medium and long term, the competent international organisations have to push ahead with further legal harmonisation. An important milestone at multilateral level was reached on 23 June 2011 when the EU acceded to the Convention concerning international carriage by rail (COTIF). This will promote implementation of the measures contained in the Commission’s plan of action and also enable further progress to be made with regard to the certainty and interoperability of international rail transport law. DB AG further endorses the work of the United Nations Economic Commission for Europe (UNECE) to harmonise transport law in the rail sector, which began in 2011.



Rail structural models under scrutiny

Based on the initial experience of liberalisation of the rail sector, governments and transport experts are now investigating the importance of the organisational structure for the development of the railways.

Since the beginning of liberalisation of the rail markets in 1991, the Member States have been looking for an organisational form which will enable the former state-owned railways to succeed as efficient private-economy enterprises in the face of competition with other transport modes. In doing so, they have to comply with mandatory unbundling requirements prescribed by European law: in the case of integrated railway undertakings, the track infrastructure and rail operations have to be separate in legal, organisational and accounting terms.

Directive 91/440/EEC on the development of the Community's railways does not demand explicit institutional or ownership separation, but merely offers this as a voluntary option. As a result, the individual Member States have implemented different models in the course of their rail reforms.

Critical discussion of structural models

However, the discussion of the right organisational form is by no means over. Some of the models practised to date are currently under review, for example in the United Kingdom and France.

In the United Kingdom, the integrated state-owned railway British Rail was completely disbanded between 1994 and 1997. Ownership of rail infrastructure was transferred to Railtrack, a listed company, and franchises for operations on the individual line sections were awarded to 25 train operating companies and six freight operators. Competition takes the form of bidding procedures for the franchises. Four years ago, the British Ministry of Transport commissioned an investigation into the rail sector. In May 2011, the "Rail Value for Money" study, headed by Sir Roy McNulty came to the conclusion that the British rail sector was 40 per cent less efficient than its counterparts in Sweden, Switzerland and the Netherlands. The causes named in the study included the extreme fragmentation of the rail industry and the particularly inefficient cooperation between the railway undertakings and the infrastructure manager Network Rail (successor to Railtrack). Amongst other things, the study recommended increasing vertical cooperation between the railway undertakings and the regional infrastructure managers. This could range from participation in costs and revenues to the establishment of joint ventures or even full vertical integration in the form of a combined

According to the “Rail Value for Money Study”, the separation of infrastructure and operations has significantly impaired efficiency in the United Kingdom (left). In France (right) the infrastructure manager has largely transferred operations management back to the incumbent, SNCF.



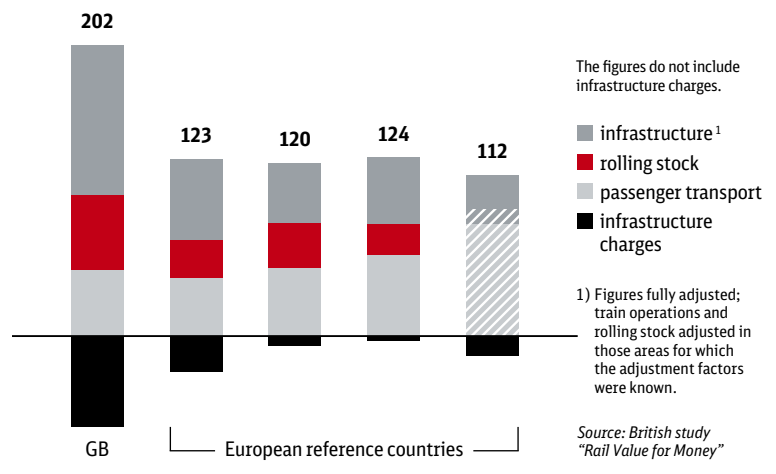
licence for infrastructure management and operations. The study estimated that costs could be reduced by around 30 per cent by exploiting potential synergies resulting from the stronger integration of infrastructure managers and operating companies. In a strategy paper dated March 2012, the British Ministry of Transport set out its demands for a reform of the rail sector to make it more efficient in the interests of the passengers and taxpayers. The items up for discussion include fare levels, a reform of the franchise system, ongoing infrastructure development and closer integration of infrastructure and operations. In that context, it expressly examines the option of vertical integration for certain franchises, which the government believes could lead to long-term advantages. According to articles in the press, Network Rail, in consultation with various operating companies, is considering the deployment of joint management teams who would be responsible for both infrastructure and operations for the different franchises, with the objective of improving coordination of decision-making procedures between infrastructure and operations.

Rail infrastructure in France was hived off and transferred to a separate infrastructure manager “Réseau Ferré de France” (RFF), which has owned rail infrastructure since 1997. However, it has largely delegated operations management – i.e. train path allocation, timetable compilation and maintenance – back to the incumbent SNCF, which is still responsible for operations. To prevent the accusation of discrimination in connection with the allocation of train paths, a separate department, “Direction de la Circulation Ferroviaire” (DCF) was set up in 2010, with the aim of ensuring equal treatment of all infrastructure users. However, both the regulatory authority “Autorité de régulation des activités ferroviaires” (ARAF) and also the competitor railways have reservations as to whether DCF actually works independently of SNCF.

SNCF’s competitors and the regulatory authority also believe that the organisation of infrastructure management is too complex and too expensive. There is an annual deficit of approximately EUR one billion for infrastructure maintenance and modernisation. RFF repeatedly has to borrow more funds to close this gap and currently has debts amounting to around EUR 27 billion. In response to this situation and in view of other unsatisfactory circumstances in the rail market, negotiations on the future of the French rail mode were initiated in 2011 with the aim of paving the way for a fundamental reorganisation of infrastructure and operations. According to the results presented by the French government in December 2011, no connection

British rail sector has high infrastructure costs

(Comparison of overall costs of rail mode, partly adjusted; GBP per 1000 passenger-kilometres)





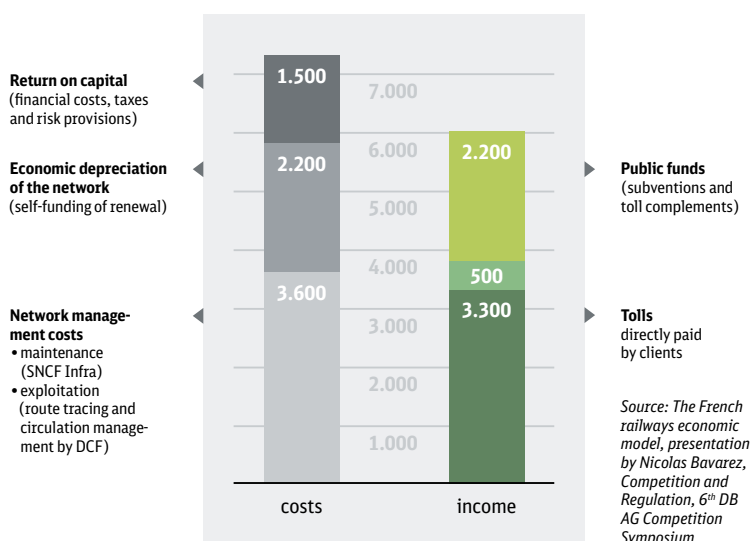
The Czech rail mode was separated into infrastructure and operations in accordance with EU requirements (left). However structural reforms are now under discussion again.

can be established between the organisational model and the degree of liberalisation, the market share or the safety of the rail mode. On the contrary, promising factors for successful development were, for example, systematic opening of the market and non-discriminatory access to infrastructure. After examining the various alternative rail models, the French government has announced that it prefers an integrated model

with a holding structure centred around a system integrator (SNCF), which, however, would have to be compatible with European law. The Ministry of Transport has drawn the first conclusions from the results and announced its intention of bundling the administration and operations management of rail infrastructure in one entity. This would mean the amalgamation of DCF and SNCF Infra, the company responsible for infrastructure maintenance, with the infrastructure manager RFF. It is not yet clear whether the government after the presidential elections will still abide by this holding structure or will opt for full separation of infrastructure and operations.

Insufficient funding of French rail mode

(A current funding gap of the network of about EUR one billion per annum¹)



1) Gap between the complete costs of the infrastructure (about EUR 7 billion) and the funding provided by public and private clients (45%) and taxpayers (35%); 20% gap filled by use of debt.

Trend towards reintegration in some European Member States

While the structural debate in France is still in progress, the trend in other European Member States is clearly moving towards stronger integration. In December 2010, for instance, the Slovenian parliament adopted a law to restructure the rail mode, which envisaged reorganisation of the Slovenian state railway, Slovenske Železnice d.d. (SZ), as a holding structure with effect from 1 January 2012. The newly formed holding is in charge of three subsidiary limited companies: an infrastructure manager, which is responsible for traffic control and infrastructure maintenance, a rail freight operator and a passenger transport company. This is similar to the structure in Switzerland, where certain infrastructure functions (train path allocation and the determination of infrastructure charges) are entrusted to a government body. The primary reasons for this reintegration were to optimise costs and improve the market presence.

In order to align the structure of the Czech rail market to the objectives of European law, the legislator adopted measures to separate infrastructure and

operations in January 2003. České Dráhy a.s. (ČD) was transformed into a joint-stock company and a separate infrastructure manager, Správa Železniční Dopravní Cesty (SŽDC), was founded. In December 2011, however, Petr Žaluda, CEO of the Czech railway undertaking České Dráhy (ČD), appealed to the European Parliament for the reintegration of the Czech railway undertaking with the infrastructure manager under a holding structure, claiming that this would enable significant cost savings resulting from synergies and better coordination of the priorities between operations and infrastructure management. Moreover, Petr Žaluda pointed out that the holding structure was currently the most convincing model favoured by the most successful railway companies. The Czech Ministry of Transport is unofficially known to have initiated an investigation of the different scenarios for a structural reform.

Scientific findings of the structural debate

Recent studies on the effects of a vertical structure on the success of rail operations have confirmed that market and competition can develop positively regardless of the chosen structure, provided there is compliance with the requirements of non-discrimination and the regulatory provisions. In their study “Vertical separation of railway infrastructure: does it always make sense?” from the year 2011, transport experts Professor Chris Nash and Jeremy Drew of the Institute for Transport Studies at the University of Leeds found that full separation substantially impairs efficiency. As the main reasons for this effect, they stated the higher transaction costs between infrastructure managers and railway undertakings as well as the negative impact on decision-making processes, especially relating to investments in infrastructure. Fully separated infrastructure managers concentrate on the benefits for their own sector and lose track of the overall rail mode. Moreover, the experts established that there was no significant connection between separation and higher growth in traffic performance by rail or more intense competition.

The study can be downloaded from the website of the Institute for Transport Studies of the University of Leeds: <http://www.its.leeds.ac.uk>.

In October 2011, Polynomics consultants examined the technical and cost efficiency of European railway undertakings on behalf of the Swiss State Secretariat for Economic Affairs and published its findings in the study “Finanzierungsansätze für Verkehrsinfrastrukturen und deren Einfluss auf die Produktivität” (Financing concepts for transport infra-

structure and their influence on productivity). The authors come to the conclusion that whilst vertical separation does not automatically lead to higher efficiency, there is evidence that the degree of liberalisation has a positive effect on technical efficiency.

In a study published in the journal “Intereconomics – Review of European Economic Policy” in 2012, Helge Sanner and Christine Laabsch investigate the effect of a vertical structure on rail’s share of the modal split. The empirical analysis was based on data from nine different European countries between the years 1994 and 2009. The authors examined factors such as the level of public funding, the degree of liberalisation and the overall economic development. The findings show that full separation lowers the market share of rail in passenger transport by approximately 0.7 percentage points. The results for the freight transport market also indicate that separation has negative effects.

Fumitoshi Mizutani and Shuji Uranishi (2011) prove that the influence of separation of infrastructure and operations depends primarily on the capacity utilisation factor or the train density. If capacity utilisation/train density is low, there is far less need for continuous coordination processes between operations and infrastructure than in markets with a high infrastructure utilisation factor. Coordination is significantly more difficult in a separate structure. In the final analysis, they conclude that separation ultimately reduces costs only in cases of low train density.

According to recent studies, market and competition can develop positively regardless of the chosen structure.

The study “Does Vertical Separation Reduce Cost? An Empirical Analysis of the Rail Industry in OECD Countries” was published as a discussion paper at Kobe University in 2011.

Christina Growitsch and Heike Wetzel (2009) examined the economies of scope for 54 European railways between 2000 and 2004. The results clearly show that integrated companies are more efficient: for the majority of the companies examined, the benefits were greater than the disadvantages. The study, “Testing for Economies of Scope in European Railways: An Efficiency Analysis” was published in the “Journal of Transport Economies and Policy”.



Financing is neglected

The development of national regulation is geared primarily to monitoring and saving costs, while less and less attention is paid to the question of how rail is to be financed.

In November 2010, the Federal Court of Justice ruled that the traction current transmission lines are governed by the regulatory regime for the energy industry. This means that charges for use of the traction current grid have to be approved by the Federal Network Agency (BNetzA). In April 2011, DB Energy submitted the charges for grid use to the Agency for approval with backdated effect to October 2005. This was the first time that accounting documents for an efficiency audit had to be compiled pursuant to the requirements of energy industry legislation, which meant considerable additional outlay for the company. Special technical and historical features which are unique to traction current and do not apply in the energy market necessitated immense explanatory work and consultation between DB Energy and BNetzA. In February 2012, BNetzA finally approved the grid use charges for the years 2005 to 2008 and included DB Energy in the performance regime with backdated effect to 2009. A revenues path was defined for the first regulatory period up to 2013, specifying a fixed upper limit of the revenues which can be earned per annum. All in all, the decision of BNetzA involves substantial reductions in the charges which were originally submitted for approval. At the end of March, DB Energy therefore reduced the price of traction current by approximately four per cent, with backdated effect to 1 January 2012. Before the end

of this year, DB Energy will submit the accounting documents for the next regulatory period (2014–2018) to BNetzA. It remains to be seen how the specific features of the rail sector are taken into account, as explicitly demanded by the Federal Court of Justice. As DB Energy is obliged to apply the provisions of energy law not only to calculation of its grid charges, but also when designing the access regime to the traction current grid, the ruling of the Federal Court of Justice also entails comprehensive and expensive adjustments of its business processes and information technology, which in turn raise the cost of traction current.

Regulatory trends

In the latest regulatory proceedings, BNetzA is increasingly focusing its attention on cost savings. This trend is likely to continue and become even more pronounced after the draft of the Rail Regulation Act. However, this does not answer the question of how – and above all by whom – infrastructure is to be financed over the long term in these days of debt brakes and empty public coffers. But that is the central question. There are only two alternatives as regards the running costs and investments in rail infrastructure: either user-based funding through the rail sector and its customers or state financing through the Federal budget. There is

Following a ruling by the Federal Court of Justice, the charges for use of the traction current grid had to be approved by the Federal Network Agency for the first time in 2012. Preparations for the next approval process are already underway.



no other option, because it is not possible to continue to offload a part of the required costs onto the railway undertakings, which would steadily accumulate losses and debts from year to year.

At the moment, the running costs of rail operations are paid solely from the infrastructure charges paid to the railway undertakings and thus ease the pressure on the public budget. Since 1994, the DB Group has invested a total of almost EUR 133 billion, with investments in infrastructure accounting for EUR 95 billion of that sum. Only around EUR 78 billion came from the public purse in the form of interest-free loans and investment grants. In other words, the DB Group has contributed EUR 17 billion of its own funds. In addition, it has had to repay interest-free loans and investment grants, which add up to a nominal sum of a further EUR 12 billion since 1994. This means that DB AG has co-funded almost EUR 30 billion of the total EUR 95 billion.

The Rail Regulatory Act is now to introduce a performance regime and the benchmark of the “cost of efficient service provision” for the rail sector. These regulatory instruments are expected to raise the supposed potential for reducing costs and ultimately lead to lower infrastructure charges. It is thus assumed that DB AG itself does not have sufficient incentive to endeavour to operate profitably. Before approving the charges, the regulatory body is therefore to check the individual cost items on which the charges are based and decide whether or not they are reasonable. This harbours a risk that the authority could arbitrarily reduce certain items, even if only to satisfy the expectations of the market.

Unreasonable and unforeseeable cuts imposed by the authority would impair DB AG’s planning certainty and therefore its investment capacity. This would in turn jeopardise the obligation to strive for economically efficient infrastructure management, which is enshrined in the German Constitution. It would also lead to unneces-

sary bureaucracy, although there is no legitimate reason to assume it would reduce costs in the first place. That would only be the case if the infrastructure management companies of DB AG had earned monopoly returns in the past or if their present organisational structure was so inefficient, owing to lack of cost pressure, that only comprehensive regulation could remedy the situation. The truth, however, is different: the tied operating assets of DB Netz AG currently yield a return of approximately four per cent, which means the company earns the running costs of operation and maintenance, but by no means recovers its cost of capital.

Rail infrastructure can be financed either user-based through the rail sector or state financed through the Federal budget.

Moreover, there is already cost pressure because of a unique feature of the rail market which distinguishes it from other regulated sectors: the competitiveness of the rail mode is not determined on the upstream infrastructure markets, but on the downstream markets of passenger and freight transport – where there is already competition. Simply passing on the infrastructure costs would impair the competitiveness of rail compared with road and lead to less traffic on rail. The fact that DB AG has no interest in such a development is a consequence of its integrated corporate structure and the resulting holistic, long-term and sustainable approach. DB is also willing in future to contribute to infrastructure funding and to ease the pressure on the national budget, provided the legal and regulatory framework permits freedom for entrepreneurial action.



Modernising the Polish railway market

In order to make the Polish rail sector more competitive, the technical condition of the rail infrastructure is currently being improved and the transport undertakings reorganised.

The principal rail infrastructure manager in Poland is PKP PLK S.A. (PKP Polskie Linie Kolejowe), which belongs to the Polish state railway holding PKP Group. The company manages more than 93 per cent of the rail network, which handles 98 per cent of total rail traffic. In 2011, passenger transport accounted for roughly two thirds of that figure. The Polish rail network makes up nine per cent of the total line network in the European Union and its density is higher than the EU average. 95 per cent of all traffic is handled on 14,000 kilometres of the overall network, which has a total length of 20,700 kilometres. In 2010, the highest traffic performance figures were achieved by two companies: the regional passenger carrier Przewozy Regionalne (34 per cent of the total train-path kilometres) and the rail freight operator PKP Cargo (25 per cent).

One of the distinguishing features of the Polish rail market is the Broad Gauge Metallurgy Line (Linia Hutnicza Szerokotorowa, LHS), a vertically integrated company which belongs to the PKP Group and offers freight transport services. LHS also operates the approximately 400-kilometre long broad-gauge railway from the terminal in Slawkow in the Upper Silesian Basin to the Polish-Ukrainian border. The trans-

port volume handled by PKP LHS in 2011 amounted to more than ten million tonnes, compared with 8.5 million tonnes in 2010. The terminal in Slawkow used by the company is steadily expanding.

Better infrastructure conditions forecast as from 2014

The technical condition of the rail infrastructure is one of the main competitive disadvantages of the Polish rail sector. Several major infrastructure investment projects have been executed in recent years, some with the help of European funding. The modernisation work is carried out by PKP PLK, with the focus on those lines which are part of the Trans-European Transport Network. Other investments refer to upgrading the technical condition of the existing network. In 2010, projects for a total sum of approximately EUR 4.5 billion were put up for tender and PKP PLK signed contracts with various contractors for almost EUR 2 billion. However, the vast scope of the refurbishment measures has caused numerous delays in the construction work. The maintenance work causes additional expenses for the railways

This chapter is based on an assessment of the Polish transport market by Marcin Wołek Ph.D., University of Gdansk.

Arriva was the first private operator to win a regional rail transport contract (left, Arriva diesel multiple unit near Nowy Jascz). In Cracow (right), there is already a railway link to the regional airport.



using the network, as they are forced to make many detours. The situation is expected to improve substantially as from 2014.

On the other hand, rail infrastructure in Poland offers various benefits such as the good area-wide coverage provided by the network, which links up the major centres of industry, as well as a network structure which is designed to cope with transit traffic and many sections of which form part of the Trans-European Network for Transport (TEN-T).

The public funding available for repairs and maintenance work on the rail infrastructure is steadily increasing, with a sum of EUR 294 million budgeted for the year 2012. For a number of investment projects, especially those involving important regional railway lines, PKP PLK signs agreements with the regional governments and implements the measures with co-financing from Europe.

The modernisation programme also includes station revitalisation and refurbishment, not only in large cities such as Katowice, Warsaw Central, Wrocław, Łódź, Gdynia, Poznań, Radom and Sopot, but also smaller stations which are of regional importance.

Infrastructure charges constitute a major part of the sales revenues of PKP PLK S.A., accounting for approximately 68 per cent in 2010. Freight operators pay higher charges than passenger carriers, although discounts were granted to intermodal transport providers until 2009. One of the biggest challenges, particularly for freight operators, is the instability of the infrastructure charges, as this restricts their long-term investment policies. The list of charges for 2012/2013 published by PKP PLK, for example, envisaged price increases of more than 50 per cent for mid-weight trains, depending on the category. However, the Polish regulatory authority UTK refused to approve the list of charges. The regulatory examination is ongoing.

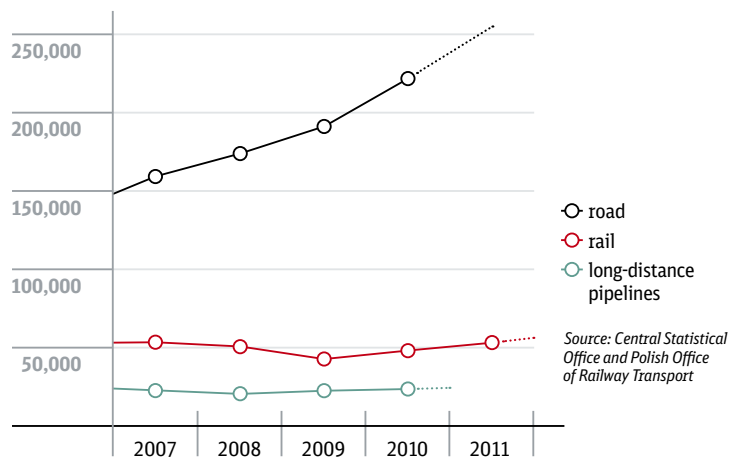
Stabilisation of the rail freight market

The freight transport market in Poland has become more stable in recent years, with the exception of 2009, which was particularly difficult for the entire European market. In terms of traffic performance, the rail freight market in Poland currently ranks in second place in the European Union after Germany. More than every tenth tonne-kilometre is performed on the Polish rail network.

Rail traffic performance reached the highest level of the past decade in 2011, at approximately 54 billion tonne-kilometres, and was up ten per cent year-on-year. However, this did not mean that rail freight

Polish freight transport market

(million t-km)





operators achieved a greater market share. In 2010, rail held a share of 16.5 per cent of the freight transport market in Poland. Road traffic enjoyed even more dynamic growth and reached a level of 223 billion tonne-kilometres, mostly through international transports.

The most vital segment of the Polish freight transport market is the carriage of bulk cargo, especially solid fuels, due to the fact that 90 per cent of Poland's power stations are coal-fired. Although container transport is a rapidly growing market segment, it still accounts for only a small share of the total volume. In 2010, there were five intermodal operators in Poland which transported 4.4 million tonnes of freight. This is an annual rate of growth around 33 per cent, compared to the sharp drop of 30 per cent in 2009.

There is strong intra- and intermodal competition in the freight transport market. In 2010, there were 40 rail freight operators, 11 of which handled the greater part of all performance. These included PKP LHS and Lotos Kolej, two operators which offer freight

it had a market share of 52 per cent in terms of transport volume and 63 per cent in terms of traffic performance. Both figures mean an increase in comparison with previous years. This is attributable to the complex restructuring of the company in response to the financial and economic crisis of 2009. The restructuring process included measures to reduce maintenance costs (especially for rolling stock), to improve sales and marketing, and the establishment of the PKP Cargo Logistics Group. Preparations are currently underway to privatise PKP Cargo. In 2011, the company had a profit of approximately EUR 60 million (2010: EUR 15.5 m), with revenues of approximately EUR 1,272 million (2010: EUR 1,159 m). In 2011, the company invested approximately EUR 136 million (2010: EUR 95 m), primarily in the modernisation of its fleet of 68,000 freight wagons including locomotives.

Challenges of the rail passenger market

In 2011, 263.6 million passengers travelled by rail in Poland, a slight year-on-year increase of 0.5 per cent. 14 rail passenger companies offer services in this market.

The largest passenger transport company is PKP Intercity, a member of the PKP Group which operates in the long-distance segment and carried approximately 36.5 million passengers in 2011. EBITDA amounted to approximately EUR 53 million in 2011, but the company nevertheless closed with a minimal loss, owing to the repayment of part of its financial obligations and expenses resulting from modernisation of its rolling stock. In 2014, PKP Intercity will commission 20 modern Pendolino trains and reorganise its services between the various conurbations. State funding is available for some long-distance inter-regional routes which fulfil a public service obligation.

In recent years, the responsibility for regional rail services which fulfil a public service obligation has

Despite a high traffic performance, Polish rail held only a share of 16.5 per cent of the freight transport market in 2010.

transports over long distances. Lotos Kolej is a subsidiary of the oil company Lotos, which has been endeavouring to diversify and improve its product portfolio, particularly in the long-distance market, for years.

The largest entity in the Polish rail freight market, however, is the state-owned PKP Cargo, which is also the second-largest rail operator in the EU. In 2011,

Every tenth tonne-kilometre in the EU is carried on the Polish rail network (left). The European Football Championship 2012 in Poland will lead to increasing passenger figures. Right: the new National Stadium in Warsaw.



been allocated to the regional governments. The largest regional transport company is Przewozy Regionalne, which has been jointly owned by 16 Polish regions since the reorganisation of the market in 2009. However, its share of the market is decreasing. At the end of 2007, Arriva PCC Consortium was the first private operator to win a tender in the Polish market, for services in the Kuyavian-Pomeranian region. Passenger volumes have grown moderately since then. Following rebranding, the services are now provided by Arriva RP, which is still the only private operator in the market.

A few voivodeships have entrusted regional rail services to their own operators in the form of direct contract award. These carriers, each of which is wholly owned by one single region, refer to Koleje Mazowieckie (service provider in the capital region), Koleje Śląskie (Silesian Railways, service provider within the most urbanised region of Silesia), Koleje Wielkopolskie (Greater Polish Railways) and Koleje Dońskie (Lower Silesian Railways). PKP Szybka Kolej Miejska, which is partly owned by the self-governments, operates rapid urban services in Pomerania.

Another important urban railway operator is SKM Warszawa, which was founded by Warsaw city council and provides rapid transit services in the Polish capital.

The total state aids provided by the regional governments for regional rail transport exceeded EUR 250 million in 2011. The regions are systematically purchasing new rolling stock, initially for diesel operations, but more recently also electric multiple units. Nonetheless, modernisation of the electric rolling stock remains a great challenge. Approximately 1200 old electric multiple units are still in service.

Traffic performance on the Polish rail network in 2011 amounted to 18,169 million passenger-kilometres, a year-on-year increase of 1.4 per cent. The domi-

nant position of PKP IC results from its role as a provider of long-distance services between the different conurbations and regions. Growth is forecast for the transport companies operated by the regional governments in the next few years.

Perspectives for rail transport in Poland

The further development of the Polish rail market will depend on the successful implementation of the following measures:

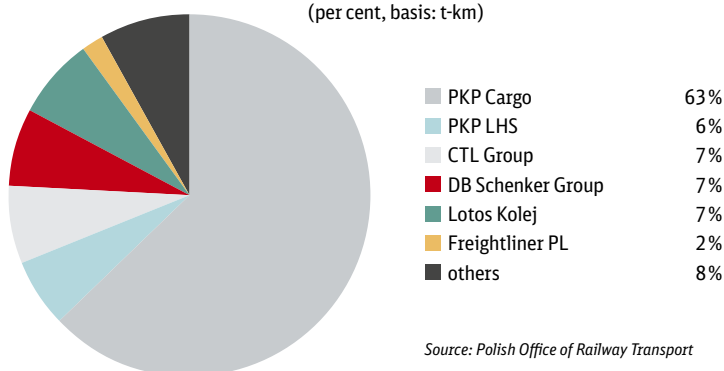
- completion of the modernisation of railway lines which are of international significance;
- investments and reorganisation of the rail passenger and freight operators;
- further consolidations and takeovers, especially in the freight market segment;
- investments by freight operators and extension of their activities (i.e. sidings management, complex logistic solutions);
- further development of seaport hinterland transport, in particular connections to the high-potential locations of Gdansk, Gdynia and Szczecin-Swinoujście.

Rail and its competitors

Following Poland's accession to the EU, the dominance of road transport in the Polish freight transport market was consolidated as a result of its greater flexibility and better ability to adjust to changing market circumstances. The restrictions resulting from infrastructure affect road transport to a far lesser extent than rail. A dynamic increase in container transport, stimulated by the development of the seaports of

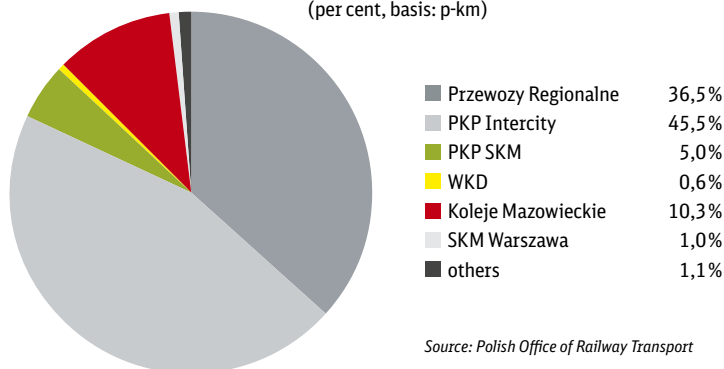


Shares in rail freight market, 2011
(per cent, basis: t-km)



Source: Polish Office of Railway Transport

Shares in rail passenger market, 2011
(per cent, basis: p-km)



Source: Polish Office of Railway Transport

Gdansk and Gdynia, will become a significant determinant in the development of intermodal transport, which makes optimum use of both transport modes. The construction of vital motorways which form part of the European transport network will be completed by 2015, easing congestion on minor roads and bringing relief for the road transport industry.

Inland shipping currently plays only an insignificant role in the Polish transport market owing to the poor condition and navigability of the waterways, which are insufficiently developed and do not offer one consistent, competitive transport option. Only Gliwicki Canal, the River Oder and the Vistula-Oder waterway are of any significance.

The air freight sector is also largely irrelevant. Despite a certain dynamic growth, its share in the Polish freight transport market is not expected to increase significantly. It carries mainly high-value freight and courier shipments. In 2010, a total volume of approximately 81,000 tonnes was carried by air. Warsaw Airport is the largest freight airport.

Dynamic development of road passenger transport

In recent years there has been a dynamic increase in the number of automobiles in Poland, with 451 passenger cars per thousand of the population registered in 2010. This has influenced the modal split and has had a particularly adverse effect on rail. The extensive modernisation work currently taking place on the major railway lines has not only caused journey times to increase, in some cases substantially, but has also led to restrictions in the services on offer. Coach companies, such as PolskiBus, responded promptly to this situation by launching alternative services. PolskiBus now offers coach connections to all the major cities in Poland, with a relatively high standard of service, enhan-

In the passenger market, the railways lost shares to road (left). Not only Warsaw (right), but also other major cities form part of the Trans-European Transport Network.



ced by solutions typically offered by low-cost airlines, such as online booking and ticket purchasing, as well as wi-fi on board the vehicles.

The domestic air market has also benefited from this temporary deterioration in rail services. The air passenger market grew by six per cent in 2011, reaching a passenger figure of 21.7 million. In addition to the services provided by LOT Polish Airlines and its subsidiary, EuroLOT, the market has flourished and various domestic connections between different cities, not only Warsaw, have recently been established.

The decisive factor for the competitiveness of air transport is the increasing role played by regional airports, which are undergoing ambitious infrastructure modernisation, in particular the construction of modern terminals.

The railway links between the city centres and airports are also being upgraded. Such a connection is already operational in Cracow and a further efficient link will open in Warsaw in 2012. Further airport links in cities such as Gdansk, Szczecin and Lublin are to be inaugurated by the year 2015. The scheduled-service air market (excluding charters) is dominated by low-cost carriers, which held a share of 48 per cent of the total passengers carried in 2011. Warsaw Airport is the largest in Poland, accounting for 43 per cent of all checked-in passengers in 2011.

Economic and political issues affecting rail in Poland

After the parliamentary elections in 2011, the new government resolved to postpone realisation of the high-speed railway construction programme until 2030. The plan had involved the creation of high-speed rail connections between Warsaw, Lodz, Poznan and Wroclaw. Instead, the new government has proposed comprehensive modernisation of the exist-

ing rail network, involving upgrading the technical parameters of the major railway links to allow trains to travel at speeds of 160–200 km/h. The main line which links Warsaw with Cracow and Katowice is

The Polish government has proposed a comprehensive modernisation of the existing railway network.

to be upgraded to enable Pendolino trains to run at speeds of up to 220–230 km/h. This would provide both attractive and competitive travel times between the largest Polish cities, in comparison to those offered by other transport modes.

As part of the new Trans-European Transport Network concept, the Polish rail network has been upgraded to improve the links to the ports and between metropolitan areas. Four trans-European transport corridors run through Poland:

- *Corridor I* (Helsinki–Tallin–Ryga–Kaliningrad–Gdansk–Kowno–Warszawa),
- *Corridor II* (Berlin–Warszawa–Minsk–Moskwa–Nizny Nowgorod),
- *Corridor III* (Berlin/Drezno–Wroclaw–Katowice–Krakow–Lwow–Kijow)
- *Corridor VI* (Gdynia/ Gdansk–Warszawa–Katowice–Żylinia/Ostrawa–Brno–Brzeclaw).

Initial financial and economic data for 2011 is available for the operators.

Potsdam station in Berlin, 1843, steel engraving by C. Schulin, and the seal of Berlin-Potsdam-Magdeburg railway company. The Prussian Railway Act was signed in 1838 after royal approval had been sought for the Berlin-Potsdam railway in 1836.



Origins of regulation

As part of a project entitled “Designing freedom – The implications of historic legacy and standardization on the regulation of the economy” sponsored by the Federal Ministry of Education and Research, Roman Michalczyk conducted a study entitled “Europäische Ursprünge der Regulierung von Wettbewerb” (History of thought of (economic) regulation), in which he examined the history of regulation in Europe based on the example of the railways. The findings reveal that neither is regulation a new phenomenon of the 20th century, nor does it necessarily lead to competition.

The study analyses the history of the Prussian and English railways. In both countries, the first railway lines were set up and operated by private enterprises back in the early 19th century. In each case, the state was sceptical about the new transport mode and reluctant to undertake the high investments involved. Nevertheless, the governments of both countries were critical of the negative effects of the natural monopoly enjoyed by the operators and feared that the absence of competition could lead to excessively high transport prices for the customers.

On the other hand, further private investors would be willing to finance further lines and thus expand the rail network only if they could expect a realistic return on capital.

The study presents the concepts developed by the states in this field of tension to design economic policies which could balance the conflicting interests. The relevant legislative provisions in both countries featured instruments which are still common today: the separation of infrastructure and operations, joint

use of competing lines and price fixing. The Prussian Railway Act of 1838 already explicitly uses the term “regulation” when referring to the determination of infrastructure charges by the state, even if the word regulation at that time was used in the sense of adjustment. The requirements imposed by the states were intended to lead to competition between the different private railway undertakings and simultaneously enable them to earn a positive return on their invested capital. When comparing this situation with the current regulatory regimes in Germany and Europe, the author comes to the conclusion that governments still use the same instruments to create competition and to provide the incumbents with financial incentive for maintaining and upgrading infrastructure, even if from the viewpoint of formerly national monopolies.

Finally, Roman Michalczyk examines the question of why the private market failed to survive in both countries despite the legal regulatory mechanisms and how private companies were transformed into state-owned railways in other European countries at the turn of the century. He concludes that the states initially failed to enforce these instruments vis-à-vis the railway undertakings owing to loopholes in the legislation. Moreover, no reliable criteria were available for calculating the price of carriage. At the same time, rail evolved into the most important transport mode for the rapidly growing industries and also played an increasingly important role in military strategy. This ultimately convinced the states to assume the role of provider themselves and establish state railways, such as Deutsche Reichsbahn.

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