

From Truck to Train

Thirteen examples of successful modal shift
in European freight transport

Imprint

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Design

PEPERONI WERBEAGENTUR GMBH

Photographs

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Maps of routes

Klaus Fischer, Deutsche Bahn AG

Date

April 2008

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Foreword

Over the last few years, goods transport and logistics in Europe have seen dynamic developments, and all the forecasts predict that transport performance will continue to grow. The efficiency and reliability of goods transport are of central importance to Europe's competitiveness and are at the same time a considerable challenge. Solutions have to be found for coping with the growth in goods transport that equally balance the needs of business with social and environmental responsibility.

Worldwide, major economic regions rely on the railways for transporting their goods: the market share of rail transport in Australia, Russia, the USA and China is between 40 % and 50 %. In all these countries, rail freight is the market leader and clearly beats the competition. This is not the case in Europe, where the road networks have for decades received a larger share of public investments; a situation where rail transport markets have been effectively cut off from each other; and existing technical barriers have meant that the rail freight market share in the EU 27 today is 16.8 %.

However, the signals for change have been set. The opening of the entire European rail network to freight on 1 January 2007 was a milestone in many respects. The numerous measures for increased interoperability between Europe's railways and first steps towards simplifying the administration of licensing rolling stock are showing positive effects. At the same time, rail freight is also profiting from the current trends in the freight and logistics market: the increasing internationalisation of goods traffic, longer transport distances, the rising use of containers and the growing importance of the energy efficiency of transport are congruent with the strengths of the railway system.

Across Europe, a varied picture can still be seen: whereas rail freight is still losing market share in the countries where the opening up of the markets and liberalisation are lagging behind, it has managed to stop its downward slide in others, for example in central and eastern Europe. Market share is even growing at a rapid pace in countries such as Germany, the Netherlands, the UK and Sweden. In spite of regional differences, the trend on the European level is positive, with rail freight's market share in the 27 EU countries increasing slightly in 2006 for the first time in a long while.

Nevertheless, decisive political action is needed to ensure that the railways are in an even better position to achieve their maximum potential in the future. The key to this is summed up with the phrase 'level playing field.' For example, administrative hurdles are still a substantial problem for rail companies trying to establish new cross-border freight services. Also, unfair infrastructure charging between road and rail remains an important source of competitive disadvantage to the railways.

This booklet shows how many enterprises from across the EU have successfully turned to rail as a solution in solving their freight transport logistics challenges and every day, more and more companies are following suit. The examples presented in the following pages show that rail freight does indeed have a future, one which will continue to grow if the right conditions are achieved.

The case studies in this booklet also effectively demonstrate how a modal shift from the roads to the railways will make a considerable contribution towards ensuring that the transport of goods becomes more environmentally friendly. This is particularly important in relation to reductions in CO₂ emissions, for which the EU has set ambitious targets.

We trust you find what follows informative, convincing and factual, and that it will be but the beginning of a rejuvenated rail freight logistics system across Europe.



Michael Clausecker
Director-General UNIFE



Dirk Flege
Managing Director Allianz pro Schiene

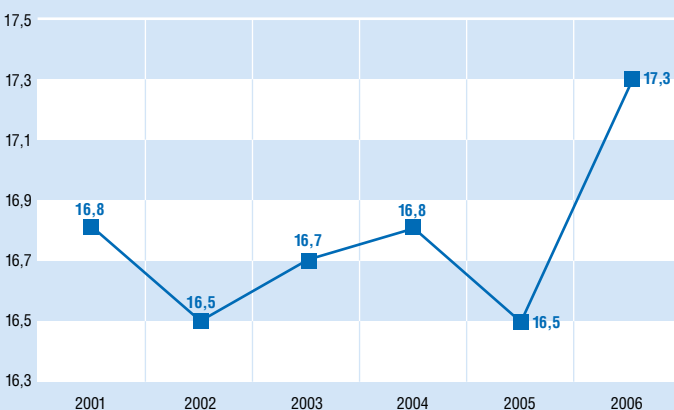


Johannes Ludewig
Executive Director CER

More goods – rail is doing it!

After decades of decline, rail freight in Europe is going through an impressive renaissance. Since 2001, this mode of freight transport has been continually recovering market share. The reasons for this reversal in trends are diverse, as are the examples given in this booklet, which show how 13 companies have together shifted the equivalent of around 200,000 truck journeys per year onto the railways.

Rail freight growth in Europe (EU 25)



Market share rail freight transport in percent (share of total transport performance in tonne-kilometres), based on following modes of transport: rail, road, internal waterway, pipelines.

Source: Eurostat, 2006 and Rail Freight Corridors Analysis, 2007.

The most important reasons for the modal shift.

The 13 companies presented here gave the following reasons for switching freight transport to the railways:

■ Freight transport is **cheaper** by rail than by heavy goods vehicle (HGV), or it is expected that this will be the case in the near future. For the German companies, a central factor for switching was the introduction of the motorway toll on heavy goods vehicles, which has helped to achieve more competitive equality and has led to more freight being transported by rail, even at the German's toll's current low rate.

■ Transport by rail is **easier to plan** and is **more reliable** than by HGV. In some instances, rail freight is also quicker than by road.

■ Logistical changes made as a result of shifting to rail freight transport often result in **improved work flow** in factories or depots.

■ Environmental responsibility and the increasing burden on the public caused by HGVs are often cited as reasons.

Trends Favouring the Railways

The growth in demand for rail freight transport is also being helped by international trends from which the railways are increasingly profiting:

- The increase in the internationalisation of goods traffic
- Greater transportation distances
- The growth in the use of containers
- The rising importance of energy efficiency in transport.

These factors are increasingly making the railways a strategic alternative for foresighted companies.

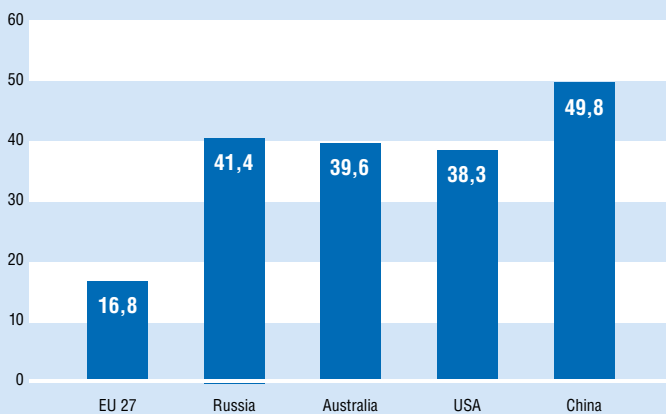
Political Signals

Politicians have also taken important decisions that have led to improved competitive equality between the various modes of transport, therefore providing more incentives for using the environmentally friendly and efficient railways. The directive on charges on HGVs (Eurovignette Directive), the electronic tachograph and the new Directive on drivers' hours are all a step in the right direction. The liberalisation of rail freight traffic in Europe enabled single companies to offer cross-border services and will make it easier for train operators with new ideas to enter the market.

On a national level, grant and subsidies for private railway sidings and combined traffic have been successful. For instance, the German program for subsidising railway sidings have proved to be highly efficient. Subsidies totalling €15,5 million, granted up to the end of 2006, mean that annual performance of around 760 million tonne-kilometres was shifted onto the railways.

These developments make it clear that rail freight industry's potential for growth has not been fully exploited. The renaissance in rail freight transport is just beginning.

Market Share of Rail Freight Transport (in percent)



Source: Eurostat, April 2008; EU-Commission, April 2008; Australian Transport Statistics 2007; US Department of Transportation, January 2008. EU and Russia figures for 2006; Australia, USA and China for 2005 (the latest available figures in each case).

Work in Progress

These positive developments must not be allowed to conceal the fact that there is still not a level competitive playing field between the railway and the roads. Single-wagon transport in particular is under pressure. This is the backbone of rail freight traffic and is an essential part of the business for many smaller train operators. The demand for action remains: continue tackling competitive disadvantages!

At the top of the list of possible short-term measures is the further **expansion of road tolls** on HGVs. While the revised EU directive on charges on HGVs (Eurovignette Directive) from 2006 makes it possible to extend the road network which is liable for tolls, and to include vehicles under a total weight of 12 tonnes, still an important step needs to be made by including external costs (e.g. accidents, environmental issues, congestions, etc.) in the level of road tolls.

There is a marked backlog in the **funding of investments in railway infrastructure**. In particular, extra money is urgently needed for financing new measures as well as upgrades to the

system. Investment in the rail network has fallen way behind what is needed, which has already led to bottlenecks in the rail infrastructure around the ports, as well as on some north-south routes. It is also important to dismantle bureaucracy and increase the planning security of public funding for the existing network. The necessity of providing **sufficient funds for the conservation of disused railway lines** is demonstrated in this brochure in the portrait of the company Schütz AG, on the Raubach – Selters railway line.

At the same time, the **slow pace of dismantling bureaucratic red tape on Europe's internal borders** is increasingly threatening to become an obstacle to the growth of rail freight transport. Crossing internal European borders is still a lot more problematic for freight trains than for road traffic. "What's important for freight forwarders is de-facto liberalisation, not just changes in the laws," was how Olaf Krüger, chairman of the German Association of Rail Hauliers (IBS) correctly summed up the situation.

This is why it is crucial to achieve an interoperable railway system. Last year's progress in the recognition of the certification of locomotives and other rolling stock was a very important step forward.

On the other hand, the possible European-wide introduction of longer, heavier vehicles, measuring over 25 metres and weighing up to 60 tonnes, would be counter-productive. These so-called mega trucks would alter the competitive environment to the detriment of the railways and shift transport back onto the roads, resulting in more road traffic, not less.

Although transport policy aims to shift freight transport onto the railways, there is sometimes a lack of awareness of the potential customers needs. Hence the suggestion from a logistics manager at Porsche: "It would be sensible if the rail operators had more insight into the transport volumes of companies shipping goods to enable them to make appropriate offers".

The inspiration to follow good example is provided by the 13 company's portrayed in this booklet. The fact is:

"Companies that don't make strategic investments in the railway today will belong to tomorrow's losers"
(Franz Findeis, Director Rail Europe, DHL Worldwide Network).

A Global Challenge with a Local Solution

Returning to the Roots



Product

Steel coils

Tonnage shifted to rail

117,000 tonnes per year
(corresponds to +/- 4000 truck equivalents)

Company

ArcelorMittal Florange, Florange, France

Motivation for shift to rail

Environmental, logistical and organisational considerations, combined with the liberalisation of rail freight

Date of shift to rail freight

19 December 2006

Route

Florange (France) – Bettembourg (Luxembourg) – Dudelange (Luxembourg)

Length of Route

30 km

Transport Companies

CFL cargo S.A., Esch-Alzette, Luxembourg

Jean-Charles Louis, head of Maintenance, Transports & Logistics at ArcelorMittal Florange, in France, is quite familiar with balancing the transportation requirements of steel production and distribution against ever-changing economic and environmental considerations.

Finding optimal logistics and transportation solutions is an important ingredient for success at ArcelorMittal, the world's number one steel company with 310,000 employees in more than 60 countries, leading in all major global markets.

ArcelorMittal Florange is part of the Lorraine cluster of ArcelorMittal sites, producing steel coils for automotive, household appliances, packaging, construction and general industry. The Lorraine cluster includes three sites: Florange in the French Lorraine region, Mouzon in the French Ardennes, and Dudelange in Luxembourg.

The Lorraine region being a historically highly industrialised region, ArcelorMittal Florange has a long-standing history in rail transportation and the Florange site's internal rail network is the biggest private rail network in France.

The Florange site provides semi-finished products for the two other sites of the Lorraine cluster: 400,000 tonnes for the galvanising and electro-galvanising lines in Dudelange, and 300,000 tonnes for the two galvanising lines in Mouzon.

A Proven Solution

In recent years, the deliveries of semi-finished products from Florange to Dudelange had been done mainly by regularly scheduled truck shuttles. However, the increasing constraints on authorized driving times, the constantly rising cost of diesel fuel, and intensified environmental concerns prompted Jean-Charles Louis to reassess the transportation options.

ArcelorMittal Florange's history in rail transportation made it possible to switch over to rail transportation without investments in infrastructure, given the existing rail sidings connecting the internal and the public rail networks. Jean-Charles Louis' analysis showed rail freight as a better fit for the logistics of loading and unloading massive volumes of semi-finished steel products in several aspects:



A Shimmns train – specially designed for the transport of steel coils, and covered to protect the coils from bad weather – in Pétange, Luxembourg.

Photos: Tom Poull

■ Storage surfaces could be optimised because the products could be shipped by rail in batches of 750 tonnes, thus quickly freeing up storage space.

■ A dedicated set of 14 wagons made it possible to transport, unload and return the wagons by evening, thus reducing the wagon rotation to less than 48 hours.

■ At the point of arrival, the wagons could be unloaded during the course of the day, thus removing the constraint of having to immediately unload a shipment.

The shift from road to rail for the transport of these semi-finished products had several additional advantages. The drivers did not have to wait around unproductively while their shipment was being loaded or unloaded. The roads are less congested in this region with heavy cross-border commuter flows.

Last but not least, ArcelorMittal Florange no longer depended on a single mode of transportation. By developing rail freight, the Florange site was able to combine the two different transportation modes in order to increase the flexibility and efficiency of its transportation solutions.

Thanks to Rail Freight Liberalisation

Only 25 km separate the sites of Florange and Dudelange; 25 km and ... a national border. Prior to the official liberalisation of rail freight on 1 January 2007, the consequence of national rail monopolies was that transportation of merchandise via rail was a poor alternative to transportation by road.

The liberalisation of rail freight changed all this by making it possible to organise such a cross-border traffic from start to finish under the responsibility of one single operator: CFL cargo.

It is in this context of liberalisation that CFL cargo was founded in October 2006 – through an ambitious and unique industrial project initiated to create synergies and enable substantial savings by merging the transportation resources of the national railway company CFL and ArcelorMittal in Luxembourg.

Since 19 December 2006, CFL cargo has been operating its first international “open access” freight traffic between Luxembourg and France, by delivering three trains of semi-products from Florange to Dudelange each week.



Just a Beginning ...

Given the increasing economic and environmental appeal of rail freight, ArcelorMittal and CFL cargo increased the frequency of the traffics between Florange and Dudelange from 3 trains per week to 6 trains per week in March 2008.

CFL cargo already anticipated the needs of ArcelorMittal by adding new Shimmns wagons, specially designed for the transportation of steel coils, to the CFL cargo wagon fleet in late 2007.

Another project consists of re-launching train traffic to Mouzon, even though the train station was closed in 2004 because of the restructuring of Fret SNCF, the historical French rail freight operator. This represents a potential additional volume of 110,000 tonnes transferred from road to rail.



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BASF + Railway: Getting the Chemistry Right

Chemical Products from Ludwigshafen Delivered to 17 European Destinations



Photo: Peperoni

Product

Chemical products (total 1,500 products)

Tonnage shifted to rail

2.5 million tonnes annually (of which 1.0 million tonnes BASF), equivalent to 125,000 trucks (50,000 trucks BASF)

Company

BASF AG, 67056 Ludwigshafen, Germany

Motivation for shift to rail

Savings in freight costs, increase of competition, greater safety, long-term safeguarding of ability to deliver

Date of shift to rail freight

Phase 1 October 2000, phase 2 2004

Route

Ludwigshafen (Rhineland Palatinate) – to 17 European destinations

Length of Route

European network of combined transport

Transport Companies

Railion Deutschland AG, Rail4chem Eisenbahnverkehrsgesellschaft mbH, SBB Cargo GmbH, Dillen & Le Jeune Cargo NV, Bayerische Cargo Bahn GmbH

„When we consider increasing rail traffic, we are not talking about single routes but about an entire delivery network,” was the confident announcement made by Ralf Dahlinger, project manager for the expansion of the combined transport terminal in Ludwigshafen. The chemical company’s diversified range of products and its customer structure is spread across the whole of Europe. Shifting its mode of freight transportation was therefore all about finding a pan-European network solution. The process began when BASF managers were considering ways to cut transport costs. The rising cost of fuel, the road toll on HGVs and the EU directive on truck drivers’ working times were making road freight transport more expensive. Road congestion due to the rapid growth in volumes of traffic added to the problem. Including other modes of freight transport as an alternative to road freight therefore became a core strategy for maintaining the ability to deliver and keep costs under control. The situation was partly the company’s own fault because in the past it had given contracts to just a few large transport companies. This resulted in monopolies and oligopolies on certain routes, for example to south-east Europe, a situation still apparent to logistics managers today.

The Formula for Success: Road + Rail = More Railway

The company actively promoted wide-ranging competition within its transport sector – not only between the individual companies (intra modal) but also between the different modes of transport (inter modal). A large scale shift to rail freight was the obvious answer, particularly as the company had its own large railway network in Germany at its disposal and had decades of relevant experience under its belt. The logistics managers at BASF were not therefore going to be frightened off by this highly complex form of transport.

A greater obstacle however was ‘Mora C’ (see glossary), a program set up by the German national rail operator Deutsche Bahn that led to the closure of many tracks. As a result, many customers could not be serviced with tank wagons, which in turn has led to transport connections being taken over by HGVs. “The days have long gone when all of our customers



Combined Terminal Ludwigshafen...



...Rhineland Palatinate's gateway to Europe

Photos: BASF

had their own railway infrastructure,” said Dahlinger. Increasingly, combined transport turned out to be the sensible alternative. With this kind of transportation system, the main part of the journey takes place on the railway, with pre-carriage and on-carriage being carried out by HGV. The advantage for the customers

is that they do not need to invest in railway infrastructure, nor do they need any railway experience. From the point of view of the chemical company, combined transport for longer journeys has proved itself to be a sensible addition to rail bound single-wagon transportation.

However, switching freight transport from road to combined transport meant overcoming several obstacles. The nearest terminals in the region did not offer BASF the desired destinations. In order to be able to manage the large amount goods for delivery and serve the complex network of customers, experts concluded that the best solution would be a company-owned container terminal. That would be expensive and would not be financially viable without grants. Also, plans to have the main carriage transported by rail did not initially impress BASF's freight hauliers. On top of that, the approval of the board of directors was required. The deciding formula that enabled the logistics managers to convince the board was probably the high ratio of subsidies: Of the 47 million EUR costs, 34.5 million were defrayed with the help of the German “Directive on Subsidising Terminal Infrastructure for Combined Transport”.

1 + 3 = Combined Terminal Ludwigshafen

The chemical company's calculated shipping volumes were however insufficient to enable BASF to economically run the terminal by itself. The size of the terminal, covering an area of 20 football pitches, meant that other users and customers were necessary. Together with four other shareholders (Hupac, Bertschi, Hoyer, Kombiverkehr), an operating company was set up – the Kombi-Terminal Ludwigshafen GmbH (KTL). Other companies specialising in combined transport brought in the required extra business by handling goods for third parties in the terminal.

In October 2000, after a construction time of only 13 months, the first phase of the terminal became operational with an annual capacity of 170,000 load units. The second construction phase in 2004 expanded capacity by an additional 92,000 load units. In 2006, 300,000 units were loaded, with BASF having a share of 42 percent, a much higher capacity than originally planned. In line with BASF's policy on competition, three combined transport operators and five different train operators manage the 17 daily train connections to destinations though out Europe. As a result of shifting to combined transport, the company saves millions of Euros in freight costs each year.



Quality is Still an Issue

According to BASF's logistics managers, the current success being enjoyed by combined transport should not belie the fact that there are still difficulties. "At the moment, it is profiting due to costs and because of bottlenecks on the roads. To maintain long-term acceptance however, it is important to tackle a series of problems with quality," said Ralf Dahlinger. Above anything else, the logistics managers' main focus is on punctuality. "The punctuality of combined transport is currently 60 percent. Apart from that, the chain of communications often doesn't function properly," complained the BASF manager. Freight trains are considered punctual if they are delayed by no more than 30 minutes. A uniform and binding definition has yet to be agreed by the railway industry. Top managers at BASF blame the current failings in the system above all else on the complexity of the train connections as well as on the "lack of flexibility shown by the operators and the train operators".

BASF is therefore hoping that the railways will continue to be liberalised. The logistics managers see potential in the increasing "containerisation", with the company registering above average growth in this area. Whereas conventional rail transport has more or less stagnated, the chances for growth in combined transport are high. Currently, the company sees a potential for transferring an additional 40,000 load units to combined

transport. That is the equivalent of 800,000 tonnes and would mean 40,000 less HGVs on the streets of Ludwigshafen.



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In Spiritu(os) Veritas

Spirits from Minden to Stadthagen



Photo: Berentzen

Product

Alcoholic Beverages

Tonnage shifted to rail

115,000 tonnes annually, equivalent to 5,000 trucks

Company

Berentzen Gruppe AG
Industriestraße 2, 31655 Stadthagen, Germany

Motivation for shift to rail

Costs, improvement in internal company processes

Date of shift to rail freight

November 2006

Route

Minden-Hahlen (North-Rhine Westphalia) –
Stadthagen (Lower Saxony)

Length of route

41 kilometres

Transport company

Mindener Kreisbahnen GmbH (MKB)

Ronald Freye, head of logistics and delivery services at the distillers Berentzen, does not exactly look like a professional revolutionary. But sometimes, revolutions begin in unlikely places...

A New Warehouse

It all began with the need to find a new warehouse. The company's turnover and production had continually increased over the previous years, and in 2005 alone Berentzen sold over 90 million bottles. The company today has around 700 employees and its sales are 377 million EUR. In the run-up to Christmas, the company works round-the-clock in 3 shifts to fulfil demand for its spirits. As the space in the old warehouse was no longer sufficient, the search for a new and larger warehouse became unavoidable. At the same time it was also an opportunity to change its warehouse service provider, which believed quite simply that freight could only be transported by road. On the premises was a railway siding, but this had long been forgotten. It was a relict of former days when goods were transported mainly by trains, and only the older employees could remember this "murky past". Train travel and especially rail freight were just no longer fashionable. But fashions change – even in the distillery business. Therefore, Berentzen was also on the lookout for a new partner who was open to new ideas.

The new logistics service partner was the Nostra Group, based in Osnabrück. As an alternative location for its central warehouse it suggested the former site of the company Otis, a maker of elevators and escalators. This is situated in the town of Stadthagen, which is 40 kilometres from Minden, and therefore 30 kilometres further away than the old, local warehouse. Transport by HGV would have been considerably more expensive, with the rising costs for energy and fuel not offering a positive outlook for road freight.



Successful “Bypass Operation”...

However, such radical changes in warehouse logistics are not possible without making investments. Firstly, a so-called bypass had to be made between the production facilities and the railway line owned by the train operator, Mindener Kreisbahnen. This would have to go through land owned by the town of Minden, but local officials turned out to be “exceedingly cooperative and non-bureaucratic”, said Ronald Freye, praising them. Additionally, an old building for storing cartons was demolished and the loading area was covered over because all Berentzen’s products are shipped in cardboard and should therefore be kept dry. In cooperation with the fire service, a new fire protection concept was developed as rebuilding meant that new access routes for fire engines were required.

Investments amounted to 1.15 million EUR. Federal grants from the program subsidising private railway sidings for industry covered 40 percent of the costs, leaving Berentzen with a 60 percent share. The logistics manager has calculated that the company’s investment will be paid back within five to six years at current production volumes.

One year later, in November 2006, everything was finally completed and Mindener Kreisbahnen ran the first trains to test operations on the new and unknown track. The results were so positive that regular shuttle traffic was begun soon after. Since then, goods have been transported between the production facilities and the warehouse entirely by rail, and apart from the slightly improved cost structure, the new system’s other benefits quickly came to the fore.

A Visit with Consequences

The impetus for a rethink came when Ronald Freye paid a visit to the potential location in Stadthagen. During his first tour of the premises he discovered fully intact rail tracks, and the sight reminded the logistics manager that there was also a rail line running along the back of the company’s production facilities in Minden. The track had become forgotten simply because it had always been there. This tempted him to pose the momentous question: “How about shifting all our transport and warehouse logistics from the road on to the railway?” It was only a thought-experiment, but it was at the same time a radical departure from previous practice.

The ‘revolution’ came quickly and abruptly. It took just about a year from the original idea to completing the project. Flexibility, in terms of both proximity and time, the traditional strengths of the road freight industry, were not relevant factors for Berentzen’s management. Whether the pallets of Berentzen’s spirits arrived at the warehouse half-an-hour later or earlier was not important. In addition, initial calculations showed that above a certain amount, it was cheaper to transport the goods 40 kilometres by rail to the central warehouse in Stadthagen than to transport them 10 kilometres by HGV to the old warehouse in Minden.



Loading the finished products is dry and safe...

Photo: Ute Michels



...thanks to the new, covered siding at the Minden distillery

Photo: Allianz pro Schiene

...and the System is Up and Running

The train operator Mindener Kreisbahnen runs the shuttle train once a night to the central warehouse in Stadthagen and back again early the next morning, leading to smoother operations in both the distillery and the new warehouse. Whereas in the past there was a permanent coming and going of HGVs at the production facilities, a freight train with four wagons now waits to be loaded on the new factory siding. As each of the wagons replaces 4 HGVs, the 'stop and go' involved in loading the vehicles is no longer a problem and production can continue without interruption. The finished pallets used to be loaded automatically onto waiting trucks via conveyor belts directly from the production line. The vehicles were often delayed due to traffic jams or road construction works, hindering production and leading, in the worst case, to a complete production standstill. Instead of automated conveyor belts, a forklift truck driver now maintains order. He sorts the pallets under the covered loading area according to product brands and loads a whole wagon with them if possible. Pre-sorting the products in Minden means that this task greatly reduced in the new warehouse in Stadthagen. Local residents near the distillery and the warehouse also find it quieter, and the controlling department is already registering a reduction in damaged pallets.

As Head of Logistics, Ronald Freye's initial conclusions are accordingly optimistic. "So far we are very happy, although it is still too early to make a final appraisal".

At the same time, this proves that rail freight can be an attractive alternative to HGVs also on short routes, contrary to conventional opinion.

The logistics manager even see a leeway for an expansion of rail transport operations. Early every morning, the shuttle train returns empty from Stadthagen. "In the future we could have a some of our raw materials delivered to the central warehouse and then delivered to the production facilities by rail", he said. The company is also looking into the possibility of having imported products from Spain and Norway delivered to the warehouse by train instead of HGV.

A positive development for rail freight in Minden, which had until recently suffered from poor 'circulation'. Sometimes alcohol really is the best medicine.



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Still Mineral Waters Run Deeper by Rail

Mineral Water from Lake Geneva to Baden



Photo: Danone Waters

Product

Mineral water

Tonnage shifted to rail

130,000 tonnes annually,
the equivalent of 7,500 truck loads

Company

Danone Waters Deutschland GmbH,
Peter-Sander-Str. 41a, 55252 Mainz-Kastel, Germany

Motivation for shift to rail

Developments in road traffic, climate protection

Date of shift to rail freight

Early 2006

Route

Évian-les-Bains (France) – Hockenheim (Germany)

Length of route

ca. 700 kilometres

Transport companies

Fret SNCF and Railion Deutschland AG

The French town of Évian-les-Bains lies in a picturesque setting between the Alps and Lake Geneva. The spa town itself is a perfect advertisement for the mineral water that it supplies and gives its name to. The promise of untouched natural beauty and purity are its most important selling points. And this is especially significant in times of ever more controversy about the environment. For Danone, worldwide the second largest producer of bottled water, an intact environment is both the basis of its business as well as its very existence. This is possibly why people in the company are so open to alternative and environmentally friendly modes of transport.

For decades, France's largest food products company has transported goods by rail within France and in part to other EU countries, for example to the UK. However, freight to Germany continued by road until 2006.

A Health Resort Full of HGVs

From an environmental point of view in particular, this was not a very satisfactory situation for the company. Narrow roads pass through the small towns strung out along the edge of the lake, and every HGV means increased noise and pollution levels, regardless of how natural the mineral water is. Not a very 'natural' state of affairs for the region's inhabitants.

The impetus for relieving the residents of the French spa came from a German health resort. Carsten Stelter and his logistics team work in Wiesbaden, where Danone Water's German distribution unit is based. For some time, the team of 20 people had been planning alternative transport routes for the different brands of French water. The French company's main goal was get closer to its German customers, drinks wholesalers and food retailers. The best way of achieving this was to set up a large depot for its beverages, enabling shorter delivery journeys to supply its customers' short-notice orders. Up to then, the water was either transported by truck from Évian or by rail to a French depot and from there by road to the German customers.



The Danone Evian plant in France

Photo: Danone Waters

Road Freight Begins to Look Shaky

In the course of their research, Carsten Stelter and his team found ever more reasons to reconsider their previous practice. The logistics team registered an increasing ‘seismological’ shift in the transport industry’s pricing structures. The road freight business was just emerging from a phase of low costs, with motorway tolls on HGVs, higher fuel prices and the new EU limits on truck driving times all combining to make road transport more expensive. On top of that, the liberalising of the French market in 2006 meant that cheaper offers from the French national railways SNCF might be a possibility. Delivery by rail was becoming more competitive.

Nevertheless, the team’s calculations remained a bet on future developments. Even now, direct deliveries by HGV to the customer are a still slightly cheaper option. Managing cross-border rail transport was also much more demanding. It required coordinating two train operating companies and would entail considerable depot administration. Completely shifting German deliveries of Évian onto the railways was hotly debated even within the company itself.

A major plus point however was the existing rail siding at Évian’s production facilities, making the need for further investment unnecessary. The remaining difficulty was finding a suitable location for the depot in Germany.

By Rail to the Stronghold of Motor Sport

After putting out tenders to ten logistics companies, Hockenheim in Germany’s southwestern Baden region was selected. Motor sport’s stronghold won the race due to the existing railway siding at the depot buildings run by Landauer Transportgesellschaft (LTG), as well as LTG’s existing experience in dealing with other drinks suppliers.

For LTG, being awarded the contract meant having to make a seven-figure investment, for example to increase capacity, cover the loading area and otherwise ensure that the goods remain dry during loading. Financial support for expanding the depot’s capacity came from the Federal Government’s program for subsidising private rail sidings for industry. The local authorities in Hockenheim were also closely involved.

“Reliability – Room for Improvement”

The transport companies chosen by Danone’s management were the freight transport subsidiary of the French national railway company SNCF and its partner in Germany, Railion Deutschland, mainly because of their long-term business relationship and the fact that both companies had large single-wagon networks. One private company tendered an offer that



Destination: LTG's depot in Hockenheim

Photo: LTG



would have meant turnaround times of 48 hours, considerably faster than by HGV. Speed was not however the decisive factor for the Évian transport operations.

Nevertheless, Carsten Stelter is convinced that private train operators will play a larger role in the French market due to the liberalisation of the railway markets in Europe. Danone will then give more consideration to private railway competition.

Since the beginning of 2006, up to 20 wagons daily make their way by rail to Germany. The shift to rail has spared Lake Geneva's residents alone more than 1,000 HGVs per year. The positive effect on the company's image is an added bonus it happily accepts. The decision to favour rail transport is now also rated positively by the company's management. "However, there remains a lot of potential for improving reliability," is Carsten Stelter's diplomatic assessment. Logistics managers are however optimistic that they can get to grips with the problems. One approach: in future one to four block trains per week will replace the daily groups of wagons.

The Goal – Expanding Transport by Rail

Danone's logistics team has already begun planning the expansion of their rail transport activities. The Volvic brand could also be transported partly by rail. "There is potential for increasing the transport of water to Germany by between 50 and 70 percent," according to Stelter. That would add up to 90,000 tonnes to the current volume of 130,000 tonnes. For this reason, Carsten Stelter and his team are looking for further locations for depots in Germany - for two to three additional depots in the medium to long-term. By this time at the latest, transporting mineral water by rail will be a match for HGVs.



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“Mr Fu” Takes the Train

Toys from The Waterfront to Thuringia



“Mr. Fu”

Photo Dickie Tamiya

Product

Toys

Tonnage shifted to rail

2,000 TEU annually, the equivalent of 1,000 truck loads

Company

Dickie Tamiya Modellbau GmbH & Co. KG,
Service and Logistics centre,
Mittlere Motschstr.9, 96515 Sonneberg, Germany

Motivation for shift to rail

Costs, revitalisation of rail transport in the region,
environmental protection

Date of shift to rail freight

June 2006

Route

Hamburg harbour – Sonneberg (Germany)

Length of route

560 kilometres

Transport companies

NTT 2000 GmbH, NeCoSS GmbH, Regentalbahn AG
(Arriva) contracted by Pöhland Containerlogistik

The radio-controlled model cars and trucks produced by the company Dickie Tamiya could have come from an apocalyptic vision of a future without traffic infrastructure. They are called Mr Fu, Racing Monster or Nitro Crusher. Their brightly painted bodywork is covered with lightning flashes and their giant, double-tired wheels easily overcome any obstacle. However, before the vehicles can cut their way through a child's bedroom, they have first to take a train journey. Distributor Dickie Tamiya, a German-Japanese company, recently decided to transport Mr Fu and friends by environmentally-friendly rail freight.

The company's management had previously demonstrated this foresight in 1991. Shortly after German reunification, the company, based in Fürth, Bavaria, began construction of a logistics depot in Sonneberg, just over the state border in Thuringia. The products arrive in Hamburg by ship from overseas, mainly from Japan and China, and are then transported to the logistics depot in Sonneberg where 100 employees prepare them for distribution to retailers and wholesalers. The world's fifth largest distributor of toys has an assortment of 7,000 products.

Wanted: An Inexpensive Alternative to HGVs

For the manager of the Dickie Tamiya logistics depot, Jörg Stricker, transporting the goods by HGV from Hamburg to Sonneberg on a permanent basis was not a satisfactory solution. “The cost of transporting a container by truck has risen by between 150 and 200 EUR since 1998, mainly due to the increase in fuel costs and the tolls on HGVs,” said Stricker. For the company it is not just vital to keep its production costs in Asia low, but also to ensure that transport to Sonneberg is inexpensive too.

A real alternative to road freight however was not available, or was at least no longer available. In 1998, the old container terminal in Sonneberg was shut down by its operator, Deutsche Bahn AG, due to insufficient volumes of transport. Without container handling facilities, rail freight in the region was paralysed.

Nevertheless, Jörg Stricker was not willing to accept that this meant the end of rail transport in the Sonneberg area.



A Reach Stacker for Mr Fu and his Friends

It also proved helpful that there was no need to make investments or carry out reconstruction work in order to reactivate the terminal. Instead of erecting expensive and elaborate cranes, all that was necessary was to purchase a mobile reach stacker for loading the containers. The space required for the terminal was leased from the waste management company. Public grants were not necessary because the terminal was too small.

One problem remained – fully utilising the train’s capacity. A daily freight train from the port of Hamburg to Sonneberg via Hof costs the freight forwarder 6 million EUR per year. “The money is due even if the train runs half-empty,” said Ingo Röttger, managing director of the freight forwarders Pöhland. But at least Pöhland had won its first heavyweight customer, Dickie Tamiya, with an initial volume of 1,000 containers annually. That made it easier to find additional contracts, but it still meant that Ingo Röttger did not have any option other than to canvass other freight forwarders and shipping companies until he had won enough contracts to reach the magic profitability threshold of 25 TEU per single journey.

Trains for Everything – Including Compressors

The final breakthrough was achieved by cooperating with other freight forwarders such as Panalpina, who Pöhland managed to win over as an additional shipper. Panalpina helped make sure that goods were also transported on the return journey by

He took it upon himself to look for other interested companies, as well as freight forwarders capable of organising rail transport. At the same time, he held meetings with politicians and associations in an attempt to put together a broad coalition supporting the revitalisation of rail freight in the region. This would make restarting operations at the container terminal in Sonneberg an absolute necessity. It was a vicious circle that was hard to break out of because searching for freight customers without a container terminal did not make much sense, and visa versa. Trying to win-over new allies proved very arduous.

Jörg Stricker’s attempts gained momentum when he held talks with the freight forwarder Pöhland Containerlogistik. The logistics specialists had already reactivated a container terminal in nearby Hof, and had gained initial experience with rail freight. They also made the proposal to reopen the terminal in Sonneberg. But there was another problem to overcome: a waste management company was now using the area as a reloading point for waste transport, and they would need to be required to make some space available.



A long business trip with a happy end: The first freight train in the Sonneberg terminal, June 2006

Photo: Dickie Tamiya

rail, in other words from Sonneberg to Hamburg. These goods include compressors made by the company Kaeser and vehicle components from the automotive industry supplier Brose. Only by cooperating extensively was it possible to achieve attractive rail freight costs for all parties.

Since June 2006, a daily shuttle train connects Thuringia with the ports of Hamburg and Bremen. Dickie Tamiya's rail freight alone reduces congestion on the roads around Sonneberg by 480 HGVs per year. "Transporting the goods by rail currently costs us 600 EUR per container," reckons Stricker – 50 EUR less than by HGV. It is still too early for a final evaluation says the logistics manager, who has since retired. This will have to be carried out by his successor, Norbert Pillmann. The new manager of the logistics depot is, for the moment, just happy that the shift to rail transport was successful: "Everything is working exceptionally well. I am very pleased."

The management at Dickie Tamiya is now hoping that the freight forwarders can find additional customers, enabling them to make further price cuts. The prospects are not too bad. In 2007 a new waste incineration plant for the whole of southern Thuringia will start operating in Zella Mehlis. The

rail transport company Regentalbahn can then run from Sonneberg to the waste incineration plant in Zella Mehlis. The positive effect for the region is that since Mr Fu and friends have been travelling by train, rail transport has developed new potential in other sectors.

There is only one small blemish. As an alternative to their "Monster Truck" model, Dickie Tamiya's range of toys still does not have a radio-controlled freight train. The world's fastest locomotive can reach a speed of 357 km/h. That makes Mr Fu and his friends look pretty slow by comparison.



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Paper Pulp on Rails

Transporting Paper Pulp from the Netherlands to the Black Forest



Paper pulp as the raw material for the production of paper at Technocell Photo Felix Schoeller

Product

Paper pulp

Tonnage shifted to rail

30,000 tonnes annually, the equivalent of 1,500 truck loads

Company

Felix Schoeller Holding GmbH & Co. KG,
Postbox 3667, 49026 Osnabrück, Germany

Motivation for shift to rail

Costs, transport reliability, more acceptable to the local community

Date of shift to rail freight

October 2004

Route

Vlissingen (Netherlands) –
Neustadt (Black Forest/Baden-Württemberg)

Length of route

850 kilometres

Transport company

Railion Deutschland AG

Once again, Peter Galitz, a logistics expert at the Felix Schoeller Group, had a tough transport problem to solve. The head of a 6-man logistics team based in Hengelo in the Netherlands was given the task of finding the best way of transporting 30,000 tonnes of paper pulp per year from Vlissingen in the Netherlands to the Black Forest. In 1998, the Schoeller Group, a medium-sized producer of speciality papers based in Osnabrück, Germany, had bought the Technocell Dekor factory in Neustadt in the Black Forest. The high quality raw materials for the production of premium speciality papers come from Brazil, Spain and Portugal.

It would have been an easy decision for most experts in the freight transport business. The factory, around 100 years old, no longer had its own railway siding since closure in the 1990s, so the easy answer was to go for the usual road transport option. An obvious solution for some, but logistics manager Galitz had come to another conclusion. His firm belief is that “a mass product like paper pulp belongs on the railways.” However, not all his colleagues in the company shared this view. For many of them, rail transport seemed too complicated and expensive because of the need to provide new infrastructure and the necessary reorganisation of the logistics. Peter Galitz was not going to be deterred. The concentration of traffic around Neustadt had long become a problem that affected the reliability of transportation, and the company’s acceptance within local community. Alternative forms of transport were therefore to be preferred.

The Railway Delivers the Goods – and Cuts the Costs

Firstly, it was necessary to address the killer argument of costs. The logistics team evaluated all the conceivable solutions for different modes of transport, considering all the system variations. They also looked at inland waterway transportation for a part of the journey on the Rhine. However, their figures were clear-cut; rail freight proved to be the most cost effective way of transporting the paper pulp from Vlissingen in the



Netherlands to Neustadt. One important reason, the logistics manager openly admits, was the recently introduced toll on HGVs. This led to road freight becoming more expensive, making transport by rail more attractive.

Complete Reorganisation of the Logistics

The debate about costs was only one obstacle to overcome. Reorganising logistical processes led to new questions. How will the units of paper pulp, weighing tonnes, be loaded into the so-called pulpers, machines for processing the raw materials? What happens after the rail wagons loaded with pulp arrive at the factory? They are not needed at first and are just left waiting. The topography of the Black Forest, with gradients of up to 7 percent, also had to be taken into consideration. Nevertheless, the experts eventually found solutions for all the questions. Having to construct a railway siding was also factored into the calculations. This meant having to demolish a building and rebuild it on another site.

The Return of Goods Trains to Neustadt

Felix-Schoeller's decision to make more use of the railways in the future was a shot in the arm for rail transport in the Black Forest region. As part of the 'Mora C' program, freight transport

to Neustadt by rail had been discontinued by Deutsche Bahn due to lack of demand. However, the promise of increased volume of transport made servicing the line profitable once again, in spite of the fact that all parties involved would have to dig deep into their pockets to provide the factory with a new railway siding. The local state of Baden-Württemberg, Deutsche Bahn and the Schoeller Group all participated in the investments. However, Peter Galitz reckons that their outlay will pay for itself in less than five years. And, as an added bonus, the Felix Schoeller Group also pioneered the comeback of rail freight in the region.

"We have shown that it can work"

The results: since 2004, 30,000 tonnes of paper pulp are delivered annually to Neustadt by rail, relieving the Black Forest town of around 1,500 HGV journeys a year. Encouraged by this experience, the next steps are being planned at Schoeller.

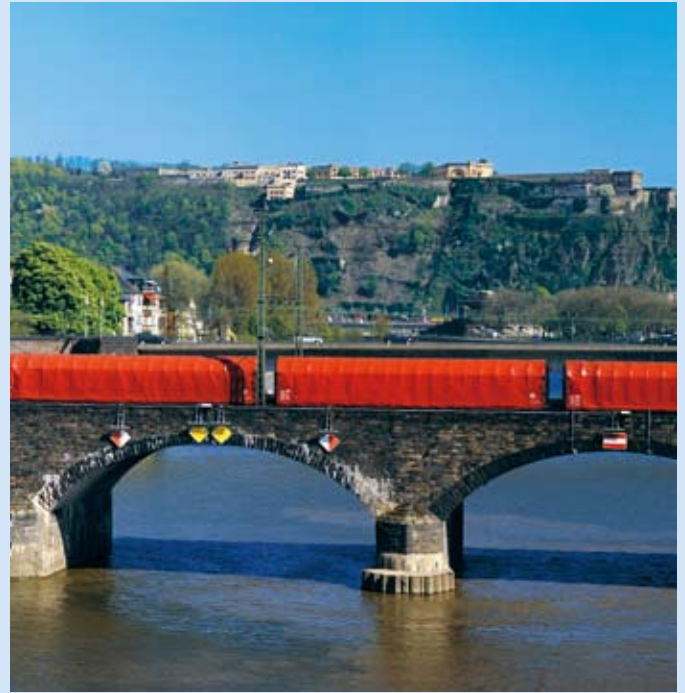
The logistics experts now increasingly load the empty wagons with the finished products in order to deliver them to their customers.

The Deutsche Bahn subsidiary, Railion, transports the goods from Neustadt to intermediate storage depots across Europe. The advantage for the customer is that the products are now in



Officially open: The new railway siding at the Technocell factory in Neustadt

Photo: Technocell



Railion freight wagons transporting paper pulp across the Rhine at Koblenz

Photo: DB AG

local storage and can be ordered at short notice as required. This dramatically reduces delivery times, and according to Galitz, many customers now highly value the deliveries by railway, even if they do not have their own private railway siding. He would now like to increase the proportion of rail transport, but there remain two main obstacles.

Whereas national rail transport is now functioning very well, there are still many unsolved problems in Felix Schoeller's cross-border transport. These include complaints about long, drawn-out discussions with freight traffic companies before any firm offers are made. The number of different train operators, track access prices that are hard to calculate, and bureaucratic obstacles all combine to make freight transport by rail more difficult in some cases.

The managers at Schoeller also would like to see more European rail-port terminals: regional goods distribution depots that can be reached by rail without any problems. Overall, Peter Galitz concludes that his rail freight endeavours have been positive. "We have shown that it can work. And what is currently happening on the roads only proves us right."



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Cast Iron Logistics

Blast Furnace Coke , Silicon Carbide, Sand and Ferro-manganese from the Ruhr Valley to Hesse



Product

Blast furnace coke, silicon carbide, silica sand and ferro-manganese for the production of cast iron vehicle components

Tonnage shifted to rail

200,000 tonnes annually, the equivalent of 9,000 truck loads

Company

Fritz Winter Eisengießerei GmbH & Co. KG,
Albert-Schweitzer-Straße 15, 35260 Stadtallendorf, Germany

Motivation for shift to rail

Shorter turnaround, safeguarding supply, improvements in quality

Date of shift to rail freight

June 2004

Route

Wanne-Eickel (North Rhine-Westphalia) –
Stadtallendorf (Hesse)

Length of route

250 kilometres

Transport company

Railion Deutschland AG

The title of the report does not exactly sound gripping: “Avoidance and Relocation of Circular Economy Traffic in the Foundry Sector”. But for a logistics expert like Michael Berdux, the conclusions reached by the Fraunhofer Institute in Dortmund were like music to his ears. As director of Materials Logistics and Purchasing for Fritz Winter, he had decided to look carefully at the logistics of the foundry located in Stadtallendorf in the German state of Hesse.

The foundry and its environs were in danger of being suffocated in HGV traffic. The relentless stream of trucks was also threatening the reliability of the foundry’s supplies. With its 3,200 employees, Fritz Winter GmbH in Stadtallendorf is one of Europe’s most important foundry businesses. The company produces engine blocks, disk brakes and other cast iron products for the automotive industry.

A Simple Calculation:

SiC + SiO₂ + HK + FeMn = Railway

The aim of the research project commissioned by Fritz Winter was to reduce traffic and, where possible, to relocate it. This meant analysing and reorganising the whole process of supplying the foundry. After two years of intensive research, the conclusions were presented in February 2004. The report’s main recommendation was to shift a considerable part of deliveries to rail freight transport in order to tap into “the hitherto unused potential for rationalisation.” The researchers and the logistics experts identified a potential for relocation to rail of 200,000 tonnes, affecting mainly deliveries of raw materials, namely blast-furnace coke (HK), silicon carbide (SiC), silica sand (SiO₂) and ferro-manganese (FeMn).

That was the theory. The next step was turning the report’s recommendations into processes that would work in practice. Working on the basis of the Fraunhofer Institute’s needs assessment, Fritz Winter and the logistics service provider Awilog developed a new procurement logistics concept. This resulted in considerable organisational and technical changes, both internal and external.



Bi-modular skips supplying the blast furnace

Photo: Awilog



Finished product: Drum brakes

Photo: Fritz Winter

Logistics Wish-List: Bi-modular Transport Containers

One of the central innovations was the deployment of so-called bi-modular transport containers and skips that were suitable for use on both the railways and by HGV. The receptacles also had to be robust enough to meet the demands made on them by foundry operations. In accordance with Fritz Winter's wishes, Awilog produced and operates a total of 320 such skips. The logistics provider also organised the procurement of 40 private freight wagons, equipped with new transport safeguard systems.

Another central demand was that the raw materials should be transported directly to the furnace because each additional step in the handling process means more abrasion, considerably reducing furnace coke quality and leading to lower furnace temperatures. The loading/unloading area also had to be partly equipped with new facilities such as hoppers and horizontal crane booms.

Awilog calculates that the extensive investment will first pay for itself within the next four to five years. In return, Fritz Winter has outsourced its entire material logistics to Awilog and given it a three year contract to help safeguard its investment.

Extensive changes were also necessary in the organisation itself. This affected the loading times and train running times, the shunting requirements as well as emergency procedures and other areas of operations. Particularly challenging is the

fact that no actual supplies of raw materials are kept in Stadtallendorf itself. As a consequence, deliveries have to be made just in time, and any delays in supplying the raw materials to the foundry lead to a production stand still within 24 hours.

Based on these criteria, a transportation system was developed using 2 block trains per week. The trains travel from Duisburg via the station in Stadtallendorf and the private siding directly to the foundry works itself.

Groundbreaking Cooperation

The new concept only became truly groundbreaking when Michael Berdux had the idea of cooperating with the Deutsche Bahn subsidiary Schenker Automotive Rail Net GmbH, another one of Fritz Winter's logistics partners. It transports 100,000 tonnes of silica sand annually in groups of train wagons from Sythen in the Ruhr Valley to the foundry. Exploratory talks showed that by cooperating, the freight forwarders could combine the two transport deliveries into one.

Hence, since 2004 one block train per day delivers the different raw materials for the foundry. The groups of wagons from Duisburg and Sythen are coupled together in Wanne-Eickel to form one block train. The delivery is organised to ensure shunting is kept to a minimum, shortening turnaround times for the wagons, and making the process economical. The entire



transport by rail compared with transport by road, according to Michael Berdux. Transport costs amount to around 7 percent of the company's total spending on materials – some 20 million EUR per year. The logistics manager is happy with the new procedure: "After initial teething troubles the system is working perfectly. We will try to shift more bulk goods to rail transport."

The transport changes increased the volume of rail freight by 200,000 tonnes to 310,000 tonnes, mainly affecting goods received at the foundry. This success also signifies a rehabilitation of the railways. In 1998, the company had to shift the transport of 60,000 tonnes of coke to the roads because Deutsche Bahn had taken the so-called Eos-containers out of service. Sometimes, a step backwards is really just a step forwards.

transport process is completed within 14 to 16 hours, from collecting the wagons at their three different locations to delivering them to Fritz Winter. At 6 am each morning, the raw materials needed by the foundry are ready and waiting. By the afternoon, the wagons are already on their return journey. The logistics team is now in a position to react to changes, even at short notice, something that is normally a real challenge for rail freight logistics. For Fritz Winter, the main advantage of shifting to rail transport was simplified logistics of a higher quality:

- Shorter and more controllable journey times without idle time.
- Reduction in the costs of capital and storage, and less administration.
- Safer and more reliable deliveries, irrespective of weather conditions.
- Improved quality of blast furnace coke due to removal of one step in the transport process.
- Greater public acceptance due to the reduced burden of HGV traffic.

These positive effects balance out the slightly higher costs of



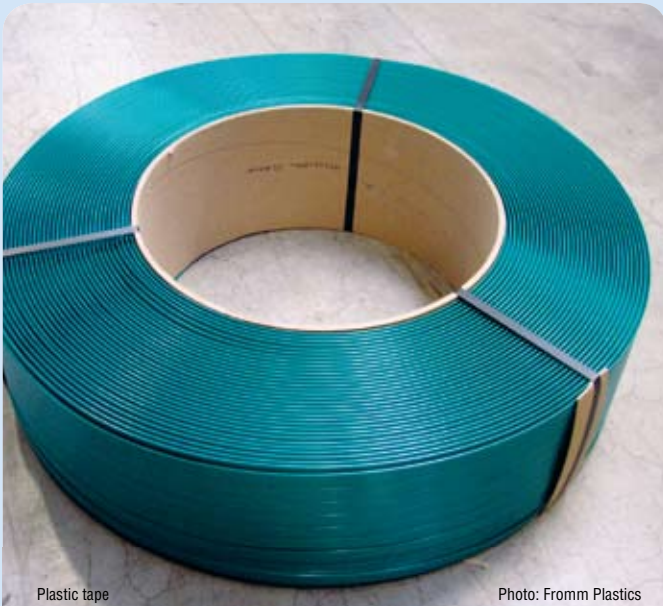
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FROM(M) the Roads to the Railways

Worldwide Exports of Plastic Tape from Thuringia via the North Sea Harbours



Plastic tape

Photo: Fromm Plastics

Product

Plastic tape and plastic sheeting

Tonnage shifted to rail

360 tonnes annually, the equivalent of 18 HGV loads

Company

Fromm Plastics GmbH, Manfred-von-Ardenne-Straße 2, 99625 Kölleda, Germany

Motivation for shift to rail

Increasing cost, and shortage, of loading capacity in road transport, road congestion, environment

Date of shift to rail freight

February 2005

Route

Kölleda (Thuringia) – Hamburg

Length of route

40 kilometres (Kölleda to the freight terminal in Erfurt), 450 kilometres to Hamburg

Transport company

Erfurter Industriebahn GmbH (EIB), NeCoSS GmbH

The fact that rail freight transport is not just something for large volumes of bulk goods, but is also a sensible alternative to road freight for smaller amount, is demonstrated by the company Fromm Plastics, situated in Kölleda in the state of Thuringia. The remarkable thing about this story is not simply the transport volume, just 360 tonnes per year, but also the company's attitude.

Fromm Plastic's Swiss shareholder stipulated that the choice of location for the new factory in Germany depended on the existence of a railway connection. This might have something to do with the fact that the Swiss are well-known railway enthusiasts!

The choice of location went to Kölleda because the town already had its own railway infrastructure and actively supported the company making a railway connection to the factory. So, right from the very beginning of construction, the Swiss company had planned a railway siding to allow rail transport to the factory. The main reasons for their decision were the environment and road congestion.

There was also financial assistance to go with the moral support. Out of total investment costs of around 325,000 EUR for the private railways siding, the state of Thuringia and the local region jointly contributed 185,000 out of an urban redevelopment fund. Fromm Plastics paid 140,000 EUR out of its own pocket.

Wanted: Freight Forwarders With the Courage to Go by Train

Perfect conditions for rail transport therefore: A company willing to transport its goods by train, equipped with its own purpose-built railway siding. In spite of this, the rolls of plastic tape and sheeting still continued to be transported by HGV for many years. The reason for this was that: "Hardly any freight forwarders were willing to consider using rail transport," complained Norbert Reimann, head of administration at Fromm Plastics. He spent two and a half years looking in vain for suitable partners. Due to the 'Mora C' program, Deutsche Bahn had given up the financially unattractive railway lines in the region, and other rail freight operators were not willing to fill the gap. The required transport volume of six trains per year, with three



and Bremen and transported to the harbours. The plastic tape is then shipped to customers in South Africa, New Zealand, Mexico and Bahrain where it is used to secure valuable products. Both transport companies have proved that it is possible to transport small volumes of goods economically by rail. A total of 360 tonnes in 2006, which is around two percent out of the total volume of 15,000 tonnes of freight shipped by Fromm Plastics. Reimann emphasised that while “this is only a modest first step, we are working on increasing the volume of our rail freight all the time.”

Rail transport may presently cost around 10 percent more than conventional road transport by HGV. But from the company’s point of view there are other reasons for expanding its volume of rail freight, which go beyond its environmental commitments. Norbert Reimann is pleased with his company’s strategic decision. “It was already obvious to us in 2000 that road freight would not be able to cope with future volumes of transport. The current shortage of loading capacity in road transport shows us that we were right,” he said. The rising cost of fuel and the introduction of motorway tolls on HGVs are additional confirmation for the administration manager. He is convinced that his commitment will pay off in the medium term.

wagons each, was just not attractive to them. The availability of reasonably priced containers suitable for trains was also a problem for the transport companies.

However, Norbert Reimann still could not follow the arguments put by the freight forwarders. His sobering conclusion was that “although rail freight is the future, they just do not have the courage or the will-power to take the few small risks there are at present and embrace it.”

Found: Two Willing Transport Companies

Luckily, Fromm Plastics eventually found willing business partners, so shifting transport to rail freight did not just remain a wish. Since February 2005, the train operator Erfurter Bahn and the freight forwarder NeCoSS (Neutral Container Shuttle System) have cooperated to transport the goods by rail. Erfurter Bahn collects the goods as required from the factory in Kölleclia and takes them to the goods terminal in Erfurt, where they are coupled with a night freight train to Hamburg

“Lack of political support”

According to Reimann, the fact that Fromm Plastics has not shifted more goods to rail transport is due also to the general political environment in Germany and the lack of support for the railways. “The introduction of motorway tolls on HGVs will not work if the alternative no longer exists, or is at best only a very basic system. In our opinion, the comprehensive dismantling of private sidings will prove itself to have been a mistake,”



A NeCoSS freight train with Fromm Plastics containers in Bremen Grolland

Photo: NeCoSS

he said. In addition he also called for “more favourable conditions for rail traffic”.

The company is also prepared to do its homework. In spite of all the obstacles, Norbert Reimann is looking for suitable rail freight partners and synergies with other companies. Expanding overland rail transport to other European destinations is also being planned, and initial talks aimed at supplying large customers by rail are already under way.

These are reasons enough for being optimistic: “It was a forward-looking decision, and it was the correct one,” said Reimann.

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Calcium Carbonate is Good for the Railways

Calcium Carbonate from Blaubeuren to Kleinheubach



Calcium carbonate is a raw material in the production of animal feed. Photo: Josera Erbacher

Product

Calcium carbonate

Tonnage shifted to rail

20,000 tonnes, the equivalent of 1,000 truck loads

Company

Josera Erbacher GmbH & Co. Betriebs KG,
Industriegebiet Süd, 63924 Kleinheubach, Germany

Motivation for shift to rail

Protection of the environment

Date of shift to rail freight

End of 2006

Route

Kölleda Blaubeuren (Baden-Württemberg) – Kleinheubach
(Bavaria)

Length of route

263 kilometres

Transport company

Stock-Transport (owner: Michael Stock)

„They may seem a bit strange, but on their website, the ‘Friends of Budgerigars’ know what they are talking about when it comes to looking after their pets properly – things such as fresh air and some extra calcium once in a while. Josera Erbacher, a company based in Kleinheubach in Bavaria, is a specialist producer of such nutritious animal feed. The names of its products can be translated as ‘Happy Piglets’ or ‘Sow’s Trump’ and obviously make animals so happy that the company’s logistics department has to organise the receipt of 20,000 tonnes of calcium carbonate annually for the production of mineral, and other animal, feed. Business is expanding fast. In the last few years however, the raw materials had to be delivered by HGV, which is a bitter pill to swallow for committed animal lovers and friends of the environment.

No Trains Leaving on this Line

Protecting the environment is established company policy at Josera. For example, the production is powered by ‘green’ electricity, even though it is more expensive than conventional, mixed-source electricity. The company also wants its goods transport to be sustainable. Which is why Otto Appel, the senior manager responsible for logistics, and his team put so much effort into trying to get its freight back onto the railways. At the end of the 1990s, the company had its own railway siding commissioned. But in 2001, Deutsche Bahn decided to shut down unprofitable lines as part of its ‘Mora C’ program. The local region – Untermain – was also cut off, and what was rail freight turned into road transport. The company was still incurring rail-related costs, however, like maintenance on the disused siding. They even had to pay a monthly charge to Deutsche Bahn for the points where the siding connected with the main track.

Another reason for being nostalgic about the railways was the growing volume of traffic on the region’s roads. This too inspired Otto Appel and his colleagues, who fought for six long years to get reconnected to the railway system. Talks with a number of train operators were unsuccessful, with the transport companies arguing that “it’s just not economically viable”.



Gravity discharge: Unloading calcium carbonate



The Josera factory in Kleinheubach

Photos: Josera Erbacher

A One-Man-Show

After several false starts they eventually found a suitable partner in the form of the private train operator Michael Stock from Mainz, who runs his own business as a 'one-man-show', driving his own 1,500 horse power bio-diesel locomotive. He had already gained some experience and references working for other customers who had experienced difficulty finding train operators as their transport volumes were too small or their costs too high. With his extremely lean business, the entrepreneur had found a market opening that he could exploit and make a living from. His recipe for success: "It's like operating a business with a freight truck. I wait for the load, and when it's ready I set off immediately". Stock doesn't see himself as competing with other train operators, but rather complementing their services. Without the Europe-wide single-wagon service offered by the Deutsche Bahn subsidiary Railion, Stock believes that the bottom would fall out of his market. He also feels that he is fairly treated by the track operator DB Netz. He can even register single journeys at short notice "for very fair prices," and does not have to submit an annual schedule, as is usually the case. He is also confident of the knock-on effect it will have for new rail connections in the region. "I am sure that in the long-run my trips will generate a few customers for Railion," Michael Stock said.

A Wagon for All Occasions

But before he could rev up his diesel locomotive for the first time as contractor for Josera, the entrepreneur had to master their unusual requirements regarding wagon rolling stock. Josera wanted a wagon that "could do everything": it had to be a silo rail wagon (with a dome cover) with gravity discharging. Nothing like this was available on the market. Eventually a cement wagon was located in France, which could be modified by the French company Ermewa. Since Ermewa wanted to cover its investment outlay, Michael Stock was obliged to enter into a lengthy lease agreement. He was then unlucky when the proposed deal with Josera did not come in effect straight away. Transporting grain for other customers at least enabled him to cover the rental costs of the wagon fleet.

Otto Appel was however very supportive. To make rail transport possible, Josera even changed their supplier of calcium carbonate, as their old supplier's factory could only accommodate three train wagons. The new supplier in Blaubeuren could offer space for six, a transport volume that finally enabled Michael Stock to operate profitably.



port over the next few years". Plans are already being made to expand the railway tracks at the factory. The company reckons that the medium-term potential for received goods is another 20,000 tonnes, which would mean an additional 1,000 trucks less on the roads. It also wants to give rail freight transport more consideration for goods leaving the factory in the future. Talks are already taking place with the Polish national train operator about a new factory in Poland.

"I don't know whether we would have fought for another five years to get back on to the railways, but I am happy that we managed it in the end". Otto Appel is clearly very happy about the positive outcome of his efforts. And the moral of the story? Budgerigar fanatics may be bird-brained, but we all need a healthy environment. Which is why calcium carbonate is so good for the railways.

"The renaissance of the railways was long overdue"

The calcium carbonate factory in Blaubeuren now wants to invest in silo facilities, making faster loading times possible. Everybody agrees that in order to get these minerals transported by rail, "a lot of people have shown a lot of good will". Now rail transport relieves the congested roads in the region of 1,000 HGVs a year, considerably reducing exhaust and noise. Otto Appel feels this justifies the slightly increased freight costs. Transport by HGV is currently still cheaper, and there are other additional costs, caused mainly by greater transport distances and for the two shunters located at the factory. In the long-term, the company is optimistic about developments. Otto Appel added that "the renaissance of the railways was long overdue, and it was only a question of time. Even though switching to rail freight transport is initially somewhat expensive, we feel sure that the costs will develop in favour of rail trans-



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PORSCHE

On the Railways – for the Roads

Automotive Components from Southwest Germany to Southwest Finland



By railway to the harbour and then shipped around the world

Photo: DB AG

Product

Automotive components for the Boxster and Cayenne models

Tonnage shifted to rail

up to 7,280 mega trailers annually, the equivalent of 7,000 HGVs

Company

Dr. Ing. h.c. F. Porsche AG,
Porscheplatz 1, 70435 Stuttgart, Germany

Motivation for shift to rail

Increased volume of production, road transport costs, relieving road congestion

Date of shift to rail freight

June 2006

Route

Stuttgart-Zuffenhausen (Baden-Württemberg) –
Uusikaupunki (Finland)

Length of route

759 km (to Lübeck-Travemünde)
1906 km (Uusikaupunki)

Transport company

Railion Deutschland AG

For many Americans the German autobahn enjoys a cult, almost mythical status. Which is why some Porsche buyers come over from the US in person to pick up their dream automobile from its factories in Stuttgart-Zuffenhausen or Leipzig. But their first test-drive on a German autobahn more often than not ends up being marred by mile-long truck convoys and traffic jams, depriving them of the thrill of driving at unlimited speed.

According to Porsche, the fact that it is increasingly using the railways to transport its goods is wholly consistent with its philosophy: “We use rail transport because we are seriously committed to the roads,” is the motto of the sports vehicles manufacturer. Apart from the burden caused by heavy goods vehicles on road traffic and the environment, the rising cost of road transport is increasingly becoming an argument for shifting to rail freight transport.

Consequences for the Future

Jürgen Wels, head of logistics at Porsche, is convinced that the decision in favour of rail transport was the right one. “When we are planning the flow of supplies and our logistics, we look very carefully to the future, and also try to factor in any regulations that might have an impact on us, such as road tolls on HGVs,” said the Porsche manager. HVG tolls and the rising price of diesel have put an end to the dumping prices in the road transport business and have made rail freight more competitive. Porsche believes the new EU directive on HGV drivers’ hours will bolster this trend.

For Porsche, the only obstacle that stood in the way of making sensible use of rail transport was that it no longer had its own connection to the rail network. The company had previously closed down the factory’s siding for reasons of cost and space, but the opening of a new intermodal freight terminal in Kornwestheim in 2000 offered a new opportunity. The goods terminal, located five kilometres away from the main factory, can handle containers, as well as swap-trailers and semi-trailers, transferring them easily from road to rail, and vice versa. With HGVs covering the short distance between the factory and the terminal, the company would now be able to use rail freight without having its own private siding.



Locomotive in Porsche-design



Loading vehicle components for Finland in the terminal at Kornwestheim

Photos: Porsche

Round Table Talks

Since 2001, a single block train to Emden harbour delivers all the vehicles destined for overseas markets – amounting to fifty percent of total sales. This relieves Germany’s roads of 15,000 HGV journeys a year. Encouraged by their positive experience with rail freight transport, Jürgen Wels and his team looked at the company’s other shipments of supplies, particularly those involving long-distance transport. The logistics experts are convinced that this is where rail transport’s strengths – reliability and scheduling – can best be exploited.

Porsche’s latest example of success is transporting vehicle components from Zuffenhausen to Valmet Automotive in Finland, which assembles the Porsche Boxster. From the start of production in 1996, all deliveries to the Finish company were made by road. The difficulty was that delivery volumes to Finland were not sufficient to fully load a block train on a daily basis; this meant Jürgen Wels had to look at opportunities for cooperating with other business partners. Switching to rail transport was a very demanding task; it would have to be financially worthwhile for all involved, including the Finish freight forwarder Nybrok who had previously only carried out road transport.

To get an exact picture of all the costs involved in the process, Jürgen Wels took all the transport-related costs from Zuffenhausen to Finland into account, and did not just calculate the cost of the freight train alone. He then got all the participants around the table. Alongside Porsche and other potential loaders, this included the freight forwarders Nybrok, the Boxster

assemblers Valmet and Schenker Automotive Railnet, a logistics subsidiary of Deutsche Bahn.

Slowly Shifting from Road to Rail

The idea that saved the round-table talks: Porsche and its sub-contractors would bundle their large-volume supply shipments for Finland at the terminal in Kornwestheim, enabling a minimum utilization rate that would make transportation profitable for all parties. In consequence, it was possible for Schenker Automotive Railnet to run between three and five block trains a week on a regular schedule, and so to acquire additional freight customers to fill up the spare capacity.

Since June 26 2006, a regular freight train makes the trip to a Baltic harbour, initially to Rostock and since early 2007 via Hamburg to Lübeck-Travemünde, where the goods are loaded on a ship bound for Finland. The train brings back used packaging and other empties on the return trip, forming a closed transport cycle. The reliability of rail transport is one of the main motivating factors, because the procurement of the goods is based on a just-in-time basis. The freight trains are monitored by a Deutsche Bahn customer service centre, which keeps Porsche informed of any deviations to the scheduled journey times. “Rail transport runs like clockwork,” said Jürgen Wels, praising the new system.



Extra Pockets for More Storage Space

One of the decisive technical requirements for the extensive collaboration was the development of so-called pocket wagons. This kind of rail freight wagon has special gaps to accommodate the wheels of an HGV trailer. This in turn enables the deployment of 3 metre high 'mega-trailers' which are suitable for rail transport. The extra storage space makes it possible to stack lattice boxes three high, for example.

The reward for all the hard work is a reduction in Porsche's transport costs of between 10 to 15 percent, without their having to make any financial investment. It has also improved the company's image. In addition, the combined activities have revived rail freight transport in the region. In the future, up to 7,000 HGV journeys will no longer be necessary. Jürgen Wels: "We would be really pleased if our logistics concept helped inspire other companies to jump on the bandwagon".

According to the Porsche manager, a greater shift to rail freight is often hindered by a lack of awareness as to the supply transport needs of large companies "It would make sense if the rail operators had more insight into the transport volumes of companies shipping goods, to enable them actively to make appropriate and individual offers", he said. He is happy to bang

the drum on behalf of rail freight: "There is still space available on the return journey from Travemünde", he added. In another broad hint, he said that, if Porsche had the bodies of its new Panamera model shipped from the VW production facility at Hanover to Leipzig, the planned expansion of the Leipzig factory could mean additional opportunities for rail freight. The south-west German car maker might one day even find a way of reactivating its disused railway siding.

A last tip for American tourists. The national railways ICE-3 train reaches speeds of 300 km/h, without stress and without any traffic hold ups.



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Coils on the Tracks

Steel Coils from the Sauerland to Westerwald



Steel coils for the production of industrial transport containers

Photo: DB AG

Product

Steel coils

Tonnage shifted to rail

160,000 tonnes annually, the equivalent of 6,000 HGV loads

Company

Schütz GmbH & Co. KgaA,
Schützstrasse 12, 56242 Selters, Germany

Motivation for shift to rail

Improved workflow in the factory, and a higher possible coil weight

Date of shift to rail freight

March 2006 (via Raubach-Selters);
old route since 1st quarter of 2004

Route

Finnentrop (Sauerland) – Raubach (Rhineland Palatinate)
– Selters (Westerwald/Rhineland Palatinate)

Length of route

12.9 km (between Raubach and Selters),
130 km (between Selters and Finnentrop)

Transport company

Westerwaldbahn GmbH (subcontracted to Railion Deutschland AG), and Railion Deutschland AG

It is almost how fairy tales begin: Once upon a time in the Westerwald Forest there was a disused railway line. It was overgrown in many places, and lined with bushes and trees that had buried their roots into the track's stony foundations.

For 17 years, no freight train ran on the line between Raubach and Selters. It was finally closed in 1999 because of insufficient volume of traffic. This practically sealed the fate of rail freight in the region.

Fortunately the state of Rhineland-Palatinate had the foresight to agree rail line conservation contract with Deutsche Bahn. Otherwise it might have suffered the same fate as many other lines that had been dismantled over the years.

Just how far-sighted the decision was became apparent when a prince on a (steel) horse arrived to awaken the 'sleeping beauty' seven years after it had been abandoned.

Improved Workflow at the Factory

Schütz, based in Selters, is a company that mainly makes products out of plastic and steel. It has a world-wide workforce of 2,500 employees, with consolidated annual sales of 700 million EUR. Winfried Heibel, a member of the management board at Schütz, was given the task of implementing the plan to shift the company's logistics from the roads to the railway, with the aim of improving work processes at the factory. The plan worked.

Thanks to the shift to rail transport, the coils of steel sheeting can be brought directly from the wagons into the production area without having to be put into intermediate storage. After delivery, the train operator Westerwald Bahn assembles the wagons accordingly in the company's railway yard. The goods no longer need additional handling, as they did when they were delivered by HGV.

Another advantage is that the individual coils can be considerably larger and heavier than before. When being transported by truck, the maximum weight per coil was 12 tonnes. With rail freight, coils weighing over 20 tonnes can now be transported. Larger units mean a decrease in the number of times coils have to be reloaded, so the production machines can run for longer between breaks.

Shorter Transport Journeys

In 2004, the first of 121,000 tonnes of steel sheeting made their way by train to the factory in Selters. However, the trains operated by the Deutsche Bahn subsidiary Railion had to take a lengthy detour, travelling 340 km from the steel manufacturer's factory in Finnentrop via the Rhineland (Cologne, Koblenz, Limburg and Siershahn), instead of taking the direct route through the Westerwald Forest along the disused Raubach to Selters track. Even so, these freight journeys formed the basis for more rail transport to the region as the new transport logistics had proved themselves successful.

Transporting the steel coils by train, without reactivating the rail link between Raubach and Selters, meant that rail freight was not fulfilling its maximum potential. The route via the disused line was only 130 kilometres – 210 kilometres less than the distance then being travelled. Using the reopened route would make rail transport even more competitive.

“It took a lot of persuasion”

Before workers from the rail operator Westerwaldbahn could begin clearing a path through the thicket to the still intact railway tracks, a seemingly impenetrable tangle of differing interests had to be sorted out. This was not an easy task, as not everybody welcomed the plans with open arms. Ultimately, credit is due mainly to Schütz for the fact that trains have now revived this very remote part of the country.

Work on the tracks alone took five months. 1,500 railway sleepers had to be replaced, and 80,000 bolts had to be checked. At the same time, Schütz converted the two existing tracks at the factory and built the company's own railway yard. The result was a railway siding that is over 1,000 metres long, of which one third is covered. It has a total of five parallel tracks that can accommodate freight trains, with 12 sets of points as well as loading cranes. It was the development of the station with its covered area, which created the additional loading and storage capacity, and that made it possible to shift more freight onto the railways.

By March 2006 everything was completed. “You are witnessing the reactivation of a railway line,” said a delighted Udo Schütz, company shareholder and managing director, at the ceremony marking the reopening of the almost 13 km track. The success of the rescue operation made it easy to forget all the difficulties and the tough negotiations that had stood in the way of reactivation for so long. “It took a great deal of persuasion,” Winfried Heibel recalls.



Complete Reorganisation of the Logistics

Since then, the coils of steel for the the production are unloaded at the company's own station. Scrap metal from the stamping and pressing processes is loaded into open, bulk cargo wagons. A small amount of finished products also leave the factory by rail, such as large packaging containers for the chemical industry. “The new, shorter route with the Westerwaldbahn has so impressed us that we have completely switched to rail transport, reorganising our logistics and inward-bound deliveries of the steel coils,” Winfried Heibel said.

Grants of 648,000 EUR were given by the state of Rhineland-Palatinate to help fund the line's 1.3 million EUR reactivation. The train operator Westerwaldbahn invested 598,000 EUR, with three local districts also contributing: Westerwald (30.000), Neuwied (15.000) and Altenkirchen (5.000). Schütz invested a total of 7 million EUR of its own money to pay for the reorganisation of the logistics, which included buying the train station at Selters, rebuilding works, and new construction at the factory.



The track from Raubach to Selters before...



... and after it was reactivated

Photos: Stinnes AG; Peter Lohr

As Hard as Steel and as Old as the Hills

Since 2005, almost 100 percent of the 160,000 tonnes of steel required are delivered by train from the manufacturers Thyssen in Finnentrop, travelling along railway tracks also made by Thyssen over 100 years ago. Switching inward-bound deliveries of plastics to rail transport was also considered, but this was not possible because of the cost of the tank wagons. The finished products are also transported mainly by HGV, "because most of our customers do not have their own private railway sidings," said Heibel.

Nevertheless, the recent successful shift to rail freight relieves the Westerwald Forest and its inhabitants of 6,000 HGV loads a year. It also offers a new perspective. "The reopening of the line marks the beginning of increased rail traffic in the region," said Horst Klein, managing director of the train operator Westerwaldbahn. Other interested parties have already contacted him.

And so this fairy tale reaches its end: if the industrial transport packaging produced by Schütz lasts as long as Thyssen's steel rails, it will still be in use for many years to come, in freight trains running along the old, reactivated line between Raubach and Selters. And the best thing about this story from the Westerwald Forest. It isn't a fairy tale!



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Soda Ash on the Tracks

Soda Ash for the Production of Glass from Eastern Germany to the Rhineland



Product

Soda ash for the production of glass

Tonnage shifted to rail

40,000 tonnes, the equivalent of 15,400 HGV loads

Company

Compagnie de St.-Gobain,
Viktoriaallee 3–5, 52066 Aachen, Germany

Motivation for shift to rail

Better use of existing railway infrastructure, quality assurance of the goods, improved environmental record

Date of shift to rail freight

May 2001

Route

Bernburg (Saxony-Anhalt) –
Stolberg (North Rhine-Westphalia)

Length of route

570 kilometres

Transport company

Regiobahn Bitterfeld Berlin GmbH (RBB), Veolia Cargo
Deutschland GmbH

Willi Wilmar is often out and about on Germany's motorways. The purchaser for freight and raw materials logistics for Saint Gobain in Aachen has suppliers and customers all over Germany, and in bordering countries.

Not so long ago, Wilmar would encounter Saint Gobain HGVs every 10 minutes or so, transporting goods in endless convoys heading south or west. He soon realised this was not a very satisfactory solution to the logistical problem he was employed to find a solution to: that of ensuring the company's factories receive the essential production material, soda ash, on a just-in-time basis. New logistical ideas were clearly needed to find a sensible alternative to the vast number of HGV trips then being made.

Four Good Reasons in Favour of Rail Transport

The Saint-Gobain Group is one of the 100 largest companies in the world, and one of the oldest. The original French factory was founded by Colbert in 1665. It is a traditional company, and is sworn to sustainable economics. The raw materials needed by Saint-Gobain are classic bulk goods, and are therefore almost predestined to be transported by rail. The company transports 400,000 tonnes of raw materials for glass production annually in Germany alone. It even has its own siding, connected to the local station, at its factory in Stolberg. For Willi Wilmar, the potential alternative to road freight was obvious. The task was finding the logistical solution to the problem of transporting 40,000 tonnes of soda ash a year from the Belgium supplier's factory, located in Bernburg in Saxony-Anhalt, to Stolberg in North Rhine-Westphalia, 570 km away. For those responsible, there were many good reasons for choosing rail transport:

- Additional rail transport makes better use of the siding's capacity and therefore helps to cover its costs.
- Quality assurance: from the company's point of view there are considerable quality benefits in transporting bulk goods, such as soda ash, by rail instead of HGV. In contrast to road freight, there is no need to clean the containers because the wagons do not transport any other materials.



Crystal-Clear Dedication

Everything was finally in place by May 2001. Transport of the raw material, essential for the production of flat glass, was shifted from HGV onto the railways, initially using single-wagon traffic. At that time however, Deutsche Bahn's rail freight subsidiary did not consider this transport to be particularly profitable. On top of that, there were also internal coordination problems that made it difficult to deliver the critical material on time. This in turn jeopardized production at the factory in Stolberg. In a crisis meeting, the factory manager requested that the logistics coordinators revert to deliveries by HGV. The head of logistics was not going to give up so easily. After all, a large number of investments had been necessary to enable deliveries to be made by rail.

His tenacity was rewarded, and a new rail transport company was found. In cooperation with the logistics experts at Veolia Cargo, a new solution was developed that would ensure transport from Bernburg to Stolberg could continue by rail. One important step in the process was the change made in August 2003 from single-wagon traffic, which is logistically much more complex, to using one block train per week. That minimised the logistical demands, and made the process less susceptible to failure.

Like clockwork, every Friday night/Saturday morning – including Christmas and other public holidays – a block train with 4 fully laden wagons, operated by Regiobahn Bitterfeld Berlin (RBB), travels to Stolberg. Monitoring the train's progress is not necessary. A problem with the final few kilometres, which are not electrified, was also solved: a diesel locomotive from the train operator Ruhrthalbahn shunts the 4 wagons directly to the factory from Stolberg station.

■ The costs of rail transport can be better planned than road freight because prices remain stable.

■ Rail freight has a better environmental record than road transport.

First however, the extent of any rebuilding work necessary for getting traffic onto the railway had to be ascertained. This work included constructing safety bridges for inspecting the wagons, and building the shed that covers the unloading area for use in winter. Video surveillance was also installed in the unloading area. None of this was necessary for road freight transport.

Solvay, the Belgium supplier, also needed to make other investments and logistical changes at its factory in Bernburg. To begin with, an old railway track had to be reactivated.



Soda ash freight train at the factory in Bernburg

Photo: Veolia

A Double Victory for the Railways

The new procedure for transporting freight by rail from eastern to western Germany also paved the way for other transport routes – this time from Stolberg heading south. After December 2002, the factories in Bad Wurzach and Neuburg on the Danube could no longer be supplied by rail. The reason was Deutsche Bahn's 'Mora C' program which led to the cancelling of all rail freight transport that was not profitable for the national rail operator. This forced many loaders to have their goods delivered by road instead. At the same time however, 'Mora C' was a shot in the arm for many private train operators, since they now had the opportunity to win new contracts. As a consequence, instead of the original fourteen, a total of twenty-six to twenty-eight wagons are now transported from Bernburg to western and southern Germany. The freight train makes intermediate stops in Stolberg and Cologne, where wagons containing silica sand are occasionally added for the onward journey south.

Head of logistics Willi Wilmar already has new ideas for rail freight transport. In future, it will not only be the raw materials that are transported by train. Using newly developed special wagons it will be possible to transport glass products by rail to international destinations.

New perspectives are also offered by the takeover of the company Rigips, producer of plasterboards of the same name. Saint-Gobain has also commissioned market research to examine the possibility of creating a rail freight network in the Aachen region where it is planned to link three factories with each other.

Taking a Risk with Wagons

From Willi Wilmar's point of view, there is one important factor standing in the way of making more use of rail freight transport. "It is difficult to get hold of simple wagons. What is missing is the possibility of hiring large numbers of flexible, suitable and inexpensive wagons," according to Wilmar. In contrast to expensive, specialist containers, the simpler and cheaper self-discharging bulk freight wagons are in short supply. Many of the wagons for Saint-Gobain's current rail freight transport have to be hired abroad. For many train operators, this issue has proved to be a real obstacle to getting more business.

In spite of the slow progress of his expansion plans, the logistics manager is happy with his pro-rail decision. These days, when he is driving on the motorway, Willi Wilmar certainly does not encounter Saint-Gobain HGVs as often as he used to.



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Premium Pils – Premium Transport

Malted Barley from the Beckum Hills to the Brewery



Photo: Warsteiner

Product

Malted barley (by rail), beer, other drinks and empties (combined transport)

Tonnage shifted to rail

up to 200,000 tonnes, the equivalent of 15,000 HGV loads

Company

Warsteiner Brauerei Haus Cramer KG,
Domring 4–10, 59581 Warstein, Germany

Motivation for shift to rail

Situation on the roads, the environment, price benefits

Date of shift to rail freight

April 2005

Route

Bernburg Neubeckum – Warstein
(both North Rhine-Westphalia)

Length of route

ca. 60 kilometres

Transport company

Westfälische Landes-Eisenbahn GmbH (WLE)

In 1753, when farmer Antonius Cramer first brewed beer in such quantities that he had to pay tax on his new part-time job, he could little have realised that his descendants would one day produce an annual volume of 6 million hectolitres. The growing thirst for beer in recent decades has helped the Warsteiner Brewery regularly to break its own sales records. However, this has also meant its having to reconsider just how to cope with the resulting increase in transport volumes, both inward and outward-bound.

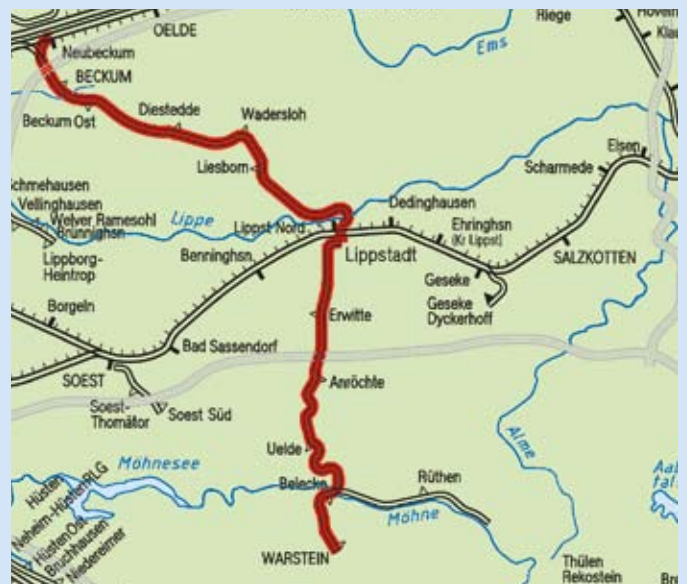
German Purity Laws – for Beer and the Environment

Uniquely Premium. Like the beer, the company realised there was only one premium solution: rail freight transport. The shift to rail would make the brewery less dependent on the roads. There were plenty of reasons to sever this dependency: the threat of total road traffic gridlock, leading to ever decreasing reliability of freight transport; the growing cost of road transport due to the tolls on HGVs; and environmental issues. Increasing volumes of beer transport also caused more pollution and noise in the vicinity of the brewery. And after all, the German purity laws should be equally as beneficial to the environment as they are for beer.

The general conditions for shifting to rail transport though were anything but favourable. Brewery products are normally marketed through drinks wholesalers, who are usually found in locations that are too small and too far apart to enable them to receive their deliveries by rail. On top of that, the brewery, set in woodland park surroundings, did not have its own private siding.

Worthwhile Potential

The ideas and plans for shifting to train freight would probably have ended up being shelved if the brewery's owner, Albert Cramer, had not seen considerable potential in a shift to rail transport – around 200,000 tonnes. That would mean relieving the roads around Warstein of some 15,000 HGV journeys per year (including empty trips). It would also lead to a measurable reduction in damage to the environment, with lower emissions



of CO₂ and nitric oxide. Apart from environmental factors, Cramer also saw cost benefits that spoke in favour of the railways. “By shifting to rail transport we can also get around the tolls on HGVs. That means cost stability for the whole product range of the Warsteiner brewery, which in turn helps our competitive position in the European market”.

Before the first train could leave the Warsteiner brewery on 5 April 2005 however, it was first necessary to construct a railway siding to the woodland park where the brewery is located.

Premium Transport for a Premium Pils

Building work was also required in the grounds of the brewery. This ranged from constructing rails for a container crane and erecting a gantry crane, to the installation of new handling machinery for the malted barley. Construction took nearly two years to complete, and only when all the logistical decisions had been taken and the investments made was it possible to shift some of the inward-bound deliveries (mainly malted barley) to the railways.

In the meantime, a specially developed transport container also enabled the brewery to transport finished products and empties by rail. For the drinks wholesalers, it can be handled just like a normal delivery by HGV, but it is easy to transfer it from rail road. The brewery delivers its Pils and other products to container terminals nearest to the customers, where they are collected by HGV for onward transport. The benefit is that no

additional costs are incurred by the recipients. This was not true for the the brewery. The total investment for laying the five kilometre track, and the construction works at the brewery, amounted to 30 million EUR. The state of North Rhine-Westphalia and the town of Warstein contributed a considerable amount in grants, but the main share of the investment was paid by the brewery itself.

Opportunities and Obstacles

Even though the responsible parties at the brewery are still cautious about making a final assessment, plans for extending rail freight transport are already being made. The brewery’s infrastructure is capable of handling 400,000 tonnes a year, which is twice the potential volume that was originally estimated. That would mean another 15,000 less HGVs on the roads around Warsteiner. From the company’s point of view though, there are still a few obstacles standing in the way of shifting more freight to rail transport:

- **Lack of customers’ private sidings.** This means that up to now only the malted barley could be fully transported by rail in silo wagons. Pils beer, empties and other goods are transported by intermodal traffic, in other words by rail and road.
- **The flexibility** of the individual train operators has to be further increased.
- **The reliability and punctuality** of single-wagon traffic has to be improved.



Beer on rails: the woodland park brewery's new railway siding make it possible

Photo: Warsteiner

■ **An expansion of the network of container terminals** and the resulting decrease in the specific on-carriage HGV costs is an important goal.

Nevertheless, as the responsible project manager, Albert Cramer is positive about the decision to construct the siding: “The railway siding enables an effective mode of transport that respects the needs of the environment, and it is certainly a sensible alternative to the previous mode of transporting freight by road”. Seen nutritionally, ‘beer by rail’ might not be a replacement for ‘meals on wheels’, but in terms of cost and impact on the environment, rail freight is certainly a better course to follow. Now, even Italy has its Warsteiner Pils delivered by rail. And Italians know a thing or two about future trends.



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Glossary

Please note: the details on tonnage and its equivalent in heavy goods vehicles (HGVs) were based on figures provided by the companies portrayed. A general rule of thumb in the industry is that 20 tonnes of load are equivalent to one HGV. Deviations can result from the differences in the volumes of goods in relation to their weight.

Combined Transport | The linked transport of containers, swap trailers or HGV units by rail, road and/or inland waterway. There are two different variations:

- a) Unaccompanied combined transport. By far the greatest amount of freight is unaccompanied, with the unit (container, swap trailer or semi-trailer) being forwarded by different modes of transport (e.g. rail and road) from the shipper to the consignee. Exchange from one mode to another takes place in combined transport terminals.
- b) Accompanied combined transport. The HGV and its load are transported 'piggyback'.

Block Train | A freight train that makes an end-to-end journey from its starting point to its destination. Because there is no need for shunting the waggons, journey times are correspondingly shorter.

Eos-Container | An open container for door-to-door transport with a capacity of 5-7 tonnes. The roll containers were in use for rail transport from the 1950s to the 1990s, and were transported 'piggyback' to and from the rail freight station by a special delivery vehicle, usually owned by the railway company.

Freight Forwarder | Freight forwarders professionally organise the transport of goods.

HGV | Heavy Goods Vehicle, also known as Large Goods Vehicle (LGV). In this booklet, HGV generally means a vehicle with a combined weight of at least 12 tonnes.

Intermodal | multiple modes of transport (e.g. intermodal competition is the competition between different modes of transport).

Intramodal | relating to one mode of transport (i.e. intramodal competition is the competition between different companies offering the same mode of transport).

Mora C | Market Oriented Service Concept Cargo. A redevelopment program run by the rail freight arm of the German national railway Deutsche Bahn AG. It was announced in 2001 and was implemented between 2002 and 2004. The program's main aim was to shut down lines and sidings that did not cover their operating costs and were therefore not economically viable.

Train Path | A train's route and schedule as set out in the timetable.

Shipper | The company that contracts transport companies or logistics service providers, for example one that asks a freight forwarder or carrier to deliver its goods to a customer.

Single-wagon Transport | The transport of goods in individual train wagons or small groups of wagons (less than a train). The wagons are shunted and grouped individually in marshalling yards as required, forming long-distance freight trains that are distributed in the target region to various freight depots and private sidings.

TEU | Twenty Foot Equivalent Unit – a standardised unit of measure for container transport (1 TEU is the equivalent of a 20 foot or 6.096 metre long container).

tkm | A tonne-kilometre (tkm) is a measure of performance of the transport of goods. It is the product of the mass of the goods transported in tonnes and the distance transported in kilometres.

TOC | Train Operating Company – a train operator that offers train services (e.g. rail freight transport).



Allianz pro Schiene – German Pro-Rail Alliance

Allianz pro Schiene is the German alliance for the promotion of future oriented, environmentally friendly and safe rail transport.

The alliance of 16 non-profit organisations, including environmental organisations, transport organisations, passenger clubs, unions and trade associations, represents more than 2 million individual members. Allianz pro Schiene is supported by 79 companies that operate in the rail sector.

www.allianz-pro-schiene.de



CER – the Community of European Railway and Infrastructure Companies

CER brings together 70 railway undertakings and infrastructure companies from the European Union, the accession countries, as well as from Norway and Switzerland. It is based in Brussels and represents its members' interests vis-à-vis the European Parliament, Commission and Council of Ministers as well as other policy makers and transport actors.

CER's main focus is promoting the development of rail as essential to the creation of a sustainable transport system transport system which is both efficient and environmentally sound.

www.cer.be



UNIFE – the European Railway Industries

UNIFE represents Europe's leading rail supply companies active in the design, manufacture, maintenance and refurbishment of rail transport systems, subsystems and related equipment. Membership also extends to associated members, mostly composed of national railway industry associations.

UNIFE's role is to represent its members' interests at the level of both European and international institutions. UNIFE's mission is to pro-actively develop an environment in which UNIFE members can provide competitive railway systems for increased rail traffic.

The European rail supply industry generates around €60 billion in turnover annually, directly employs 130,000 people and manufactures 70% of the worldwide production of rail equipment.

www.unife.org