



Germany

Railfreight along the Rhine: gearing up for growth

Enhancement projects are underway along the Rhine corridor to upgrade rail infrastructure and terminal facilities, increasing capacity to meet the enormous growth in freight predicted at Rhine delta ports, **Anitra Green** reports from Germany.

THE 1400km Rhine-Alpine Corridor linking Rotterdam/Antwerp with Genoa is one of nine core network corridors identified by the European Commission where investment is being coordinated to eliminate bottlenecks to improve the flow of passengers and freight across Europe. The Rhine-Alpine Corridor connects four seaports, six inland ports and around 50 intermodal terminals, and work is underway to improve the rail links to these ports and terminals to enable rail to play a greater role.

According to a study by the port of Rotterdam, the modal split in the hinterland transport of containers is slated to change significantly by 2035, with rail's share rising from 14% in 2009 to 20%. This means that railways could be handling as much as 3.6 million TEU by 2013, up from 0.5 million in 2009. While barge traffic could increase from 1.6 million to 8.2 million TEU boosting its share from 40% to 45%, road's share is predicted to drop from 46% to 35%, although this would still mean an increase from 1.9 million to 6.4 million TEU.

With the ports of Rotterdam and Antwerp in the throes of major expansion projects and Switzerland spending billions on the Lötschberg and Gotthard base tunnels through the Alps, Germany is crucial to the success of these projects due to its central location. Germany accounts for around 75% of the northern half of the Rhine-Alpine Corridor, so it has to be ready to play its role.

Progress is now being made to remove the two major infrastructure bottlenecks at each end of the route in Germany. In the north, a long-standing project is finally underway with the launch of a Europe-wide tender on July 1 to upgrade the 61km line between Emmerich on the Dutch border and Oberhausen from two to three tracks. The aim is to create an efficient link with the Betuwe dedicated freight line from Zevenaar near the German border to Rotterdam which opened in 2007. The selection procedure starts this month with the aim of launching construction in March next year for completion in March 2022. The total cost is estimated at €1.5bn which will

be funded by the German federal government, the state of North Rhine-Westphalia and German Rail (DB).

In the south, work is advancing on expanding the 192km Karlsruhe - Basle main line from two to four tracks. The 9.4km Katzenberg twin-bore tunnel opened at the end of 2012, while in the Rastatt area (pictured) construction started in August last year on a new 17km double-track line.

The project includes the construction of a 4270m tunnel beneath Rastatt, and last month DB awarded a €312m contract to a joint venture of Ed Züblin and Hochtief to build it.

The twin-bore tunnel will be connected every 500m by transverse tunnels. Due to the geological and hydrological conditions and the shallow depth to a maximum of 20m, construction is considered technically challenging. DB says by using special materials and measures such as temporary embankments, soil stabilisation or soil freezing, "the most difficult sections are absolutely manageable."

Work will start in November to prepare for the arrival on site of tunnel

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Duisburg is the world's biggest inland port with around 350 freight train connections a week.

boring machines in April 2015, which are expected to start drilling in October 2015. The tunnels should be bored though by the end of the first quarter of 2018.

DB plans to invite bids in March 2015 for a contract to fit out the tunnels. This work will be completed in 2020 followed by testing and trial running.

Total cost of the federally-funded Rastatt project, including noise protection, is estimated at €693m with completion scheduled for 2022.

Multimodal terminals at inland ports are being expanded too, especially in the important industrial areas of the Ruhr and North Rhine-Westphalia. Duisburg, the world's biggest inland port, is a thriving tri-modal operation and important inland distribution centre for major shipping lines and leading logistics companies from all over the world, with around 350 freight train connections a week to more than 80 destinations across Europe. It has its own railway company, Duisport Rail, which connects various parts of the port with about 200km of track and a fleet of 15 locomotives. Today the port is expanding its Logport I and Logport III container terminals to accommodate 5 million TEU by early next year. The work involves laying additional tracks, increasing the number of gantry cranes from six to 10, and expanding the container handling and depot area by 13 hectares.

Over the last few years several companies have emerged that offer a whole range of integrated services with rail transport as an essential

component. Contargo is one of these. Based in Duisburg, it focuses on the tri-modal transport of ocean containers and operates 25 inland terminals handling 2 million TEU a year. It offers entire logistic chains on a network stretching from the northwestern European seaports to Switzerland, and also runs several railfreight services of its own. At its Neuss facility it is planning a new road-rail terminal which it hopes to open in September 2016.

RheinCargo, another integrated transport company, is jointly owned by the Cologne port operating company Hafen und Güterverkehr Köln (HGK) and Neuss-Düsseldorfer Häfen (NDH). It handles all types of freight and carried around 24 million tonnes by rail last year, up 13.3% from 2012. RheinCargo operates 100 locomotives on a regional network, across Germany and internationally.

RheinCargo is currently constructing Terminal Nord, a new bimodal facility due to open by the end of the year. The track has been laid, the first gantry crane is being erected and the search is on for an operator. Because of the limited subsidies available for this project, it will initially only be able to handle trains up to 290m long, but it confidently expects that the terminal can soon be expanded to 650m.

Bimodal Kombi-Terminal Ludwigshafen (KTL) plays an important role in the transport of chemicals in and out of the huge chemical plant run by BASF, which owns the site. KTL also handles

transport for third parties which accounts for about 60% of total traffic. KTL is a partnership between BASF, Bertschi, Kombiverkehr, Hoyer and Hupac, and according to managing director Mr Roland Klein, volumes reached an all-time high last year. "We keep having to add new tracks," he says.

Dr Gerd Fischer, director of rail logistics at BASF, describes the BASF plant railway as "the cradle of rail liberalisation in railfreight transport." Fischer is referring to the launch of the Germersheimer Shuttle at the beginning of the liberalised railfreight era in 1997. This dedicated shuttle service was run by BASF on DB tracks over a distance of just 30km. Now the company operates daily "rolling pipeline" services from Ludwigshafen to Antwerp and the BASF plant at Schwarzheide, north of Dresden.

DB Schenker Rail is one of the main operators on the corridor. It has a 25% market share operating 13,000 trains a year along the corridor, and traffic is still growing. DB is aiming for growth in the single wagon sector as well as in intermodal traffic, and is developing innovative products, such as "rail network" where a common planning and control system is being introduced for block train and single wagon operations to increase efficiency and reliability.

DB Schenker Rail's strategy is to operate through Switzerland with strong local partners; DB used to cooperate with BLS Cargo but switched to SBB Cargo in December last year, a

Rhine-Alpine Corridor project

SET up initially as a European economic interest grouping (EEIG) to develop the Rotterdam - Genoa railfreight corridor, the Rhine-Alpine Corridor is one of the European Union's TEN-T corridors, and entails cooperation between the rail infrastructure managers in all the countries involved - ProRail, Netherlands, Infrabel, Belgium, DB Networks, SBB, BLS, Swiss Train Paths and Italian Rail Network (RFI).

According to the Rhine-Alpine Corridor's managing director and programme director, Mr Stefan Wendel, three clear objectives have been set: to shift traffic from road to rail, meet market requirements, and improve European railfreight services. This will be achieved by improving interoperability, eliminating

bottlenecks and developing a total service concept.

All corridor-relevant information is published in detail on the Customer Information Platform (CIP). One of the measures introduced is a system of pre-arranged paths (PaP) allocated for sections of the corridor. Train operators can apply for any section in any combination with at least one border crossing, and once allocated, that slot cannot be taken away.

A study is underway to increase the maximum train length to 740m. Wendel says work is only needed at eight locations to allow 740m trains to operate on the corridor. As Wendel points out, "the bottleneck is always the shortest train." Longer trains will lead to higher productivity with up to 15% more capacity per train and path.

move which Mr Boris Dobbenstein, head of service design, central corridors, with DB Schenker Rail, says was worthwhile.

Switzerland's huge AlpTransit project is nearing completion. The Lötschberg base tunnel is already in operation, while the St Gotthard base tunnel is due to open at the end of 2016 followed by

the Ceneri base tunnel at the end of 2019.

DB looks forward to being able to run trains of up to 2000 tonnes with double traction, leading to a significant improvement in productivity. This will be an important milestone in the development of the Rhine-Alpine Corridor and should greatly improve rail's competitiveness. **IRJ**