



Noise reduction – a common task

Rail-freight traffic is in an ecologically ambivalent situation at present. The advantages over trucks are clear in terms of energy consumption and greenhouse gas emissions. But trucks clearly come out on top with respect to noise. The good news is that this does not have to be so and that rail-freight traffic can become quieter, even if the measures taken to date are rather disheartening from an economic point of view [1]. Equipping freight wagons with K-blocks is both inadequate in terms of noise reduction and unsatisfactory in terms of the costs. We have been waiting for the LL-block «soon» or «next year» for over 20 years now.

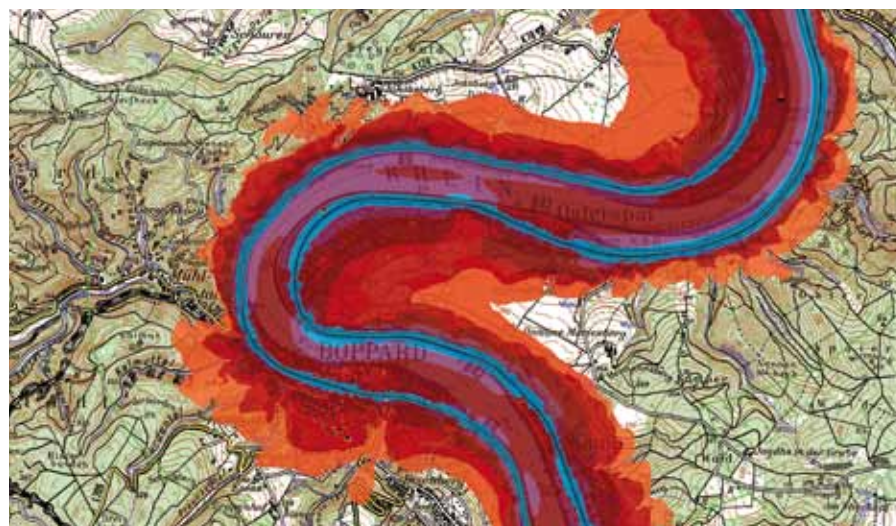


Figure 1: Noise map of a heavily used section, TEN corridor A, Rotterdam-Genoa, near Boppard in the middle Rhine valley in Germany

Any potential?

Dear readers, following safety, noise has now become an unavoidable topic for everyone involved in the rail-freight traffic market. And there's nothing wrong with that. But the question is; how do we deal with it? Both areas indisputably have scope for development, whereby the improvement potential for the topic of noise is much clearer than that for safety.

But in both cases we have to make sure that the baby is not thrown out with the bath water; any activity should centre on well thought-out, international approaches. And finally, the corresponding costs have to be split proportionately and appropriately between the involved parties. More safety and less noise have to remain affordable for everyone involved. This is the only way to ensure a fair competition with other carriers. Unfortunately, we are far from this ideal situation at present.

Philipp Müller
Delegated by the Board of Directors

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Current situation

Global trade as well as rail-freight traffic have undergone fundamental changes over the past 50 years. Trains run densely on only a few lines, above all at night, and at speeds of 100 km/h, whereas the top speed for a freight train 50 years ago was only 65 km/h. On account of the more uniform appearance of goods and the much larger number of shunting yards, freight trains used to be distributed more over the entire network. The greater concentration and load on certain sections becomes very clear in the noise maps required by the EU Environmental Noise Directive [2], Figure 1.

Those houses that lie directly along the very heavily-used railway lines are exposed to a continuous sound level of over 80 dB (A) [3]. Considering the uncontested limit of 55 dB (A), we are thus dealing with a 25 dB problem [4]. The main source of

the noise is rolling noise [5]. The discontinuous rolling of the wheels on the rails leads to vibrations in the wheels, rails and sleepers on account of irregularities and in any event fluctuating loads. The surfaces of these elements move at high-frequency

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and excite the adjacent air, therefore dissipating noise, Figure 2. The share produced by the rails and sleepers is usually greater than that produced by the wheel [5].

Technical measures

The noise behaviour of a system is always determined by the loudest sources. Noise reduction measures in vehicles are still in their infancy. It is not particularly profitable if only a few vehicles are upgraded; the full effect is only felt after the last loud vehicles have disappeared. Since a short innovation cycle in the railway sector is 8 years, we have to start implementing quiet rail traffic now if we want the ecological benefits of rail-freight traffic to take effect in terms of noise too. The following individual measures are necessary:

a) Development of quiet tracks

Over the past decades, tracks have been primarily optimised to increase their lifetime (longer intervals between working over for tamping and aligning work and longer service life). This is not enough and usually increases the noise emission. The noise behaviour has to be taken into account from the very beginning when developing rail fastening systems, rails and sleepers, the so-called acoustic design of tracks [6.7]. At least the TSI Infrastructure from

2011 identified the shortcoming. There are some big opportunities here [6].

b) Development of efficient rail dampers

Retrofit measures have to be carried out on account of the long lifetimes of tracks, including heavily used sections. Sieglitz and Czolbe demonstrate that instead of today's 2 dB, a reduction of 6 dB could in fact be possible through rail dampers [8]. However, the wheels would also have to be adapted to the rail dampers [8].

c) Parallel wheelset development with respect to strength/safety and noise reduction

A lot of work has been and is being put into improving the load-carrying capacity of wheelsets as a reaction to various accidents caused by wheelset failures with fatal consequences, e.g.

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Viareggio. Current projects that can be named include the EU projects Hiperwheel, Widem, Axleinspect and in particular EURAXLES. Noise reduction has to be integrated on an equal footing here, not just as an also ran; see also b).

d) Reduction of the load on the wheel through braking heat

Nowadays the pneumatic brake is the

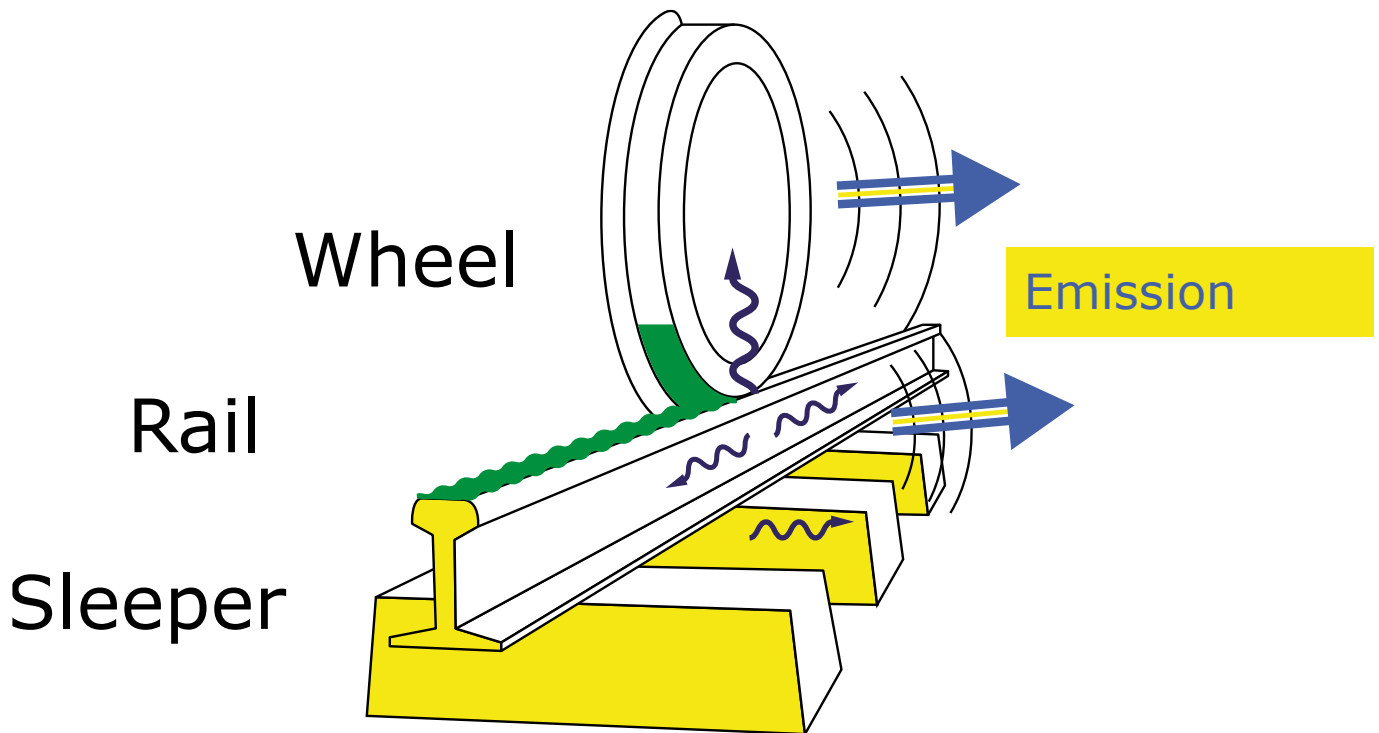


Figure 2: Rolling noise emissions from wheel, rail and sleeper

service brake and the electric regenerative brake an auxiliary brake. In terms of energy, it would be very sensible and worthwhile if the electric regenerative brake could be used as the service brake and the pneumatic brake only as an emergency brake in very rare exceptional cases. This would reduce the thermal load on the wheels, taking into account the safety issues, and thus increase the freedom to design according to acoustic criteria, something that is already being practiced by the AAR railways (AAR = American Association of Railroads) and the South-African railways.

e) **Use wheels with a straight web for vehicles with disc brakes**

Railway wheels emit noise easier in a lateral direction (transverse to the direction of travel) than a radial one (in the direction of travel or upwards). Disc-

braked vehicles, regardless of whether they have wheel disc brakes or axle disc brakes, only have further acoustic advantages if they are fitted with wheels that have a straight web. The wheel web joins the flange to the hub and has to be either undulating or slanting with block brakes so that the braking heat that is introduced can expand the flange without relieving the hub, thus avoiding wheel movements on the axle shaft.

The flange is not heated with disc brakes so that the web can be of straight design. Wheels with an undulating or cambered web that are used for block brakes, on the other hand, always display a close relationship between unavoidable vertical excitation and lateral vibration, so-called mode coupling, so that they are up to 4 dB louder than wheels with a straight web, which display much lower lateral vibration [9].

Personal details

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- ... has been in charge of the Rail Vehicle Department at the TU-Berlin for 14 years and with his team of around 20 staff carries out research and industrial projects, above all in rail-freight traffic.
- ... trains around 25 students every year, almost all of whom begin their careers in railways.

Incentive system

Noise reduction has to take place in two phases. Very loud vehicles have to be legally avoided, as has been achieved through the TSI Noise since 2006, but that is not enough for heavily-used countries such as Switzerland, Germany or Austria. Further improvements are needed here through route prices that act as an incentive for the vehicle owner [10], [11]. The new Swiss route price system that was resolved by the Federal Council of Switzerland on 31.08.2011 after many years of discussions and which will come into effect on 01.01.2013 as a bonus system, will encourage the use of even quieter wagons in particular on account of its very wide spread. According to Article 19 b), a noise bonus of 1, 2 or even 3 centimes (0.8; 1.6 and 2.4 cent) per axle-km will be paid to the commissioning rail trans-

port companies depending on the noise behaviour [11], who can then use the more expensive but quieter wagons more profitably. This will also open up whole new opportunities for transporting very

«Solutions that rapidly turn rail-freight traffic into a quiet traffic system are possible, but only if all of the partners involved pull together.»

lightweight goods such as cars or consumer goods and foods with small-wheeled wagons quietly and cheaply. The transaction costs for these systems can also be kept negligibly low, or at least much lower

than all other systems [12]. We can only hope that the German route price system [10] will take its bearings from this system to further strengthen the incentive through longer distances. European standardisation would also facilitate the settlement methods and increase the appeal of using transit corridors.

Summary

This article briefly demonstrates that solutions that rapidly turn rail-freight traffic into a quiet traffic system are possible, but only if all of the partners involved pull together. Their implementation also has to begin without delay so that the first distinct successes can be seen in 8 years time. ■

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On our behalf

New sales partner for WASCOSA in Italy

WASCOSA further expands its sales network. SSI Servizi Speciali Integrativi with its headquarters in Genoa is the new sales partner and strengthens WASCOSA's market presence on the Italian freight traffic market.

The regulations in connection with rail-freight traffic safety have received a lot of attention over the past years in Italy and place higher demands on the market players. WASCOSA has found a partner who is already successfully established on the Italian market in SSI Servizi Speciali Integrativi. Safety and quality take priority at SSI too.

The constantly growing demands of the market can only be satisfied with a reliable local partner. Safety and quality are taken seriously when it comes to choosing suppliers for the customer. These indispensable criteria are fully met by WASCOSA and

SSI with their services and a wide range of rolling stock. WASCOSA is looking forward to a successful cooperation with SSI Servizi Speciali Integrativi. ■

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This makes the partnership between Ciments Vigier and WASCOSA simply perfect – and the wagons that roll through Switzerland every single day demonstrate the cement manufacturer's commitment to rail.

News

«We've found the right partner with WASCOSA»

The cement manufacturer Ciments Vigier SA. Péry has relied on rail freight traffic for more than 120 years. The company is now investing in new silo wagons. The rolling stock is managed by WASCOSA.

It's hard to imagine our everyday life without concrete: tunnels, bridges or noise protection walls are made of this mixture of cement, water, gravel and sand. With around 130 employees and an annual production in excess of 800,000 tons of cement, Ciments Vigier from the Bernese Jura is one of Switzerland's most important cement manufacturers. The company has been processing raw materials into cement since 1891 – more than half of which reaches the customers by rail.

Over the past few years Ciment Vigier has increased the volume of goods transpor-

ted by rail by 30 percent; SBB currently transports around 400,000 tons per year for the cement manufacturer. According to Thierry Gaschen, the Logistics Manager at Ciments Vigier, one reason for this is the density of the railway network in Switzerland.

In the right place at the right time

Cement is one of those products that have to arrive at building sites or in concrete factories at precisely the right time. «The reliability of planning at Ciments Vigier is very high on account of the active management of our fleet of wagons by

WASCOSA. This is also thanks to the professional maintenance management, which is aimed at the lowest possible fai-

«The reliability of planning at Ciments Vigier is very high on account of the active management of our fleet of wagons by WASCOSA.»

lure rate of the fleet», Thierry Gaschen goes on to say.



© Ciments Vigier SA

A freight train with carload traffic travels to Biel three times a day. The railcars are marshalled at the large shunting yards in Limmattal and Lausanne-Triage and then distributed to around forty different destinations throughout Switzerland. The complete transport takes place by rail for customers with their own sidings. The cement covers the final kilometres to the remaining customers by truck. The loose cement is pumped pneumatically into the silos at its destination.

Eco-friendly and safe rolling stock

Ciments Vigiers will continue to rely on eco-friendly rail transport with its low CO2 emissions in future: the company has purchased 50 new Uancs silo wagons and put these into operation over the past two years with its own funds. Newer, more efficient wagons will gradually improve the efficiency and quality and replace the

fleet of more than 150 wagons. With their 70 cubic metre steel silo, an overall weight of 90 tons and a length of 13.5 metres, they can transport up to 69 tons of loose cement. What's more, the new wagons are quieter and faster to unload.

A perfect partnership

The complete rolling stock of Ciments Vigiers is managed by WASCOSA. Thierry Gaschen: «We opted for WASCOSA because this innovative company has decades of experience in the management of third-party wagons and the service package covers all of our needs». Another advantage of having WASCOSA as the wagon keeper according to Thierry Gaschen is compliance with various railway safety regulations in Europe: «The obligations of a wagon owner have grown enormously in recent times on account of the ECM Entity in Charge of Main-

tenance; they are becoming increasingly complex and elaborate. WASCOSA takes care of all former and new tasks and responsibilities for us, including the function of the ECM».

«We opted for WASCOSA because this innovative company has decades of experience in the management of third-party wagons.»

This makes the partnership between Ciments Vigier and WASCOSA simply perfect – and the wagons that roll through Switzerland every single day demonstrate the cement manufacturer's commitment to rail. ■

Cost calculation factor in rail-freight traffic

Costs have risen dramatically over the past few years in rail-freight traffic. The maintenance of freight wagons, for example, has become much more expensive depending on the wagon class on account of higher demands on the technical management of freight wagons. Energy prices are also at an all-time high. And finally, the current scarcity of train drivers and general lack of experts has also led to a further increase in labour costs. In view of these increases in costs, a sound cost calculation is a key success factor for rail transport companies, especially if one considers that the operating profit margin for traction services is only few percentage points, meaning that even the smallest of inaccuracies in the calculation can decide on the success of a transport. But cost transparency is also becoming increasingly important for shippers since they are facing more and more price increases from rail transport companies in view of the increases in costs.

Rail traffic with standard wagons

Rail traffic with special wagons

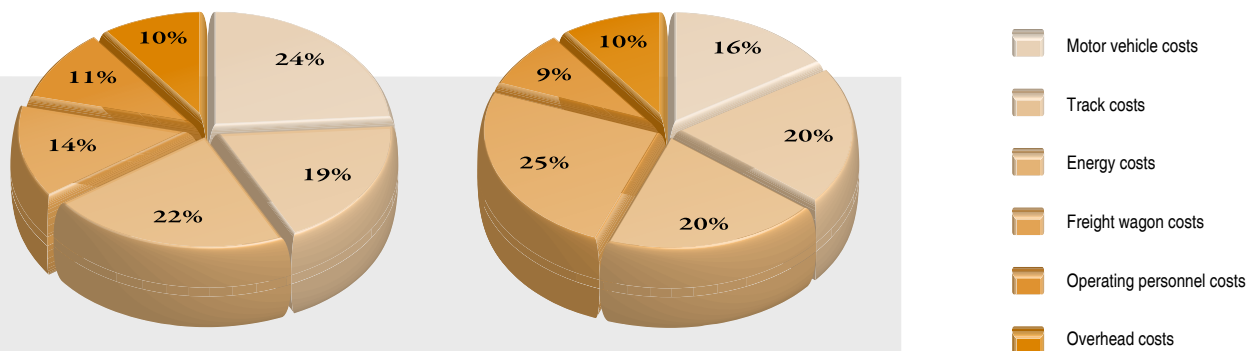


Figure 1: Exemplary cost structures for rail-freight traffic

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hwh Gesellschaft für Transport- und Unternehmensberatung mbH has developed extensive costs calculation tools based on Excel and Access for both rail traffic and truck transports and helps rail transport companies and shippers implement these systems. Calculating transport by rail will be demonstrated in the following taking a transport with a standard wagon as an example. The goal of this article is not so much to present concrete figures but rather to focus on the cost calculation method since it is always the specific transport and company costs that are important in any actual calculation. Figure 1 shows the cost structure of a rail transport that is typical for many long-distance

transports. The direct operating costs are particularly affected by the track and ener-

«The focus is on the cost calculation method since it is always the specific transport and company costs that are important in any actual calculation.»

gy costs as well as the costs for the resources motor vehicle, freight wagon and

operating personnel. Additional costs are incurred in the field of overheads for planning, sales and general management when it comes to the management of traffic and the company.

The biggest cost block, normally more than 20 %, are usually the motor vehicle costs, which depend on the type of engine, the motorisation and age. Another key factor is whether the company owns the engine itself (depreciation, financing) or whether this has been rented. And finally, any cost analysis has to take into account the maintenance and servicing as well as any inspection costs.

The productivity has a decisive influence over the motor vehicle costs, i.e. the amount of time an engine is in actual use for an order and/or how long it is at standstill and thus non-productive. Experience has shown that although a number of former state railways can benefit from buying motor vehicles in bulk, they nevertheless achieve a lower productivity compared to private rail companies in some cases, which often more than offset the purchasing advantages.

The track costs for the use of the state railway infrastructure account for approx. 20 % of the direct operating costs and as a rule these can be easily calculated using the respective catalogues of services of the infrastructure providers. The infrastructure costs for access to ports, for example, can also be easily identified using the respective terms and conditions of use.

Another big cost block is the energy costs, which also account for approx. 20% of the direct operating costs. The energy costs are normally calculated by generating ave-

Effects on the overall costs	+5% increase in the cost item	+10% increase in the cost item	+15% increase in the cost item
Motor vehicle costs	1.30 %	2.60 %	3.91 %
Track costs	0.96 %	1.92 %	2.88 %
Freight wagon costs	0.78 %	1.56 %	2.34 %
Energy costs	1.25 %	2.51 %	3.76 %
Personnel costs	0.60 %	1.20 %	1.81 %
General costs/overheads	0.45 %	0.91 %	1.36 %

Figure 2: Exemplary sensitivity analysis for a rail-freight traffic system

rage energy consumption figures for each type of motor vehicle as well as by means of train weight classes and route categories (hilly, flat).

The cost structures for the transports differ depending on the respective traffic (long vs. short distances, special vs. stan-

«The biggest cost block is the motor vehicle costs, which depend on the type of engine, the motorisation and age.»

dard wagons etc.). Sensitivity analyses can be carried out once the cost structure has been determined and shown in a calculation model (cf. Fig. 2).

The calculation shown here is a full cost calculation. Variable gross margin calculations are also needed in practice, particularly if free (remaining) capacities can be used. Incremental variable gross margin calculations are also possible that show with which traffics and on which variable gross margin levels the rail transport company can achieve positive or negative



Figure 3: Exemplary transport calculation with the Access tool RailKalk

variable gross margins. If the company has the appropriate information, this provides an important basis for professional price negotiations, for either rail transport companies or shippers.

With an exact knowledge of the relevant cost items, it is possible to develop a calculation programme that also contains lists for preliminary and subsequent calculations as well as databases for customer data, engine data and offer data. Figure 3 shows an exemplary transport calculation in the Access tool RailKalk developed by hwh. ■

Current developments in the world of Arabian railways

The Arabian world has been pursuing some very far-reaching plans over the past few years to renew and extend its existing railway network. The region covered in this article stretches from the states along the North African coast (Maghreb), the near and Middle East through the Gulf Region and Saudi Arabia.



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These railways are normally geared to mainly transporting freight; primarily containers or bulk cargo, as well as machinery & equipment for exploration, raw materials production & mining etc. The railways in the Maghreb – both existent and planned – follow the UIC standards in terms of their technical design; US technology is preferred on the Arabian Peninsula, particularly the rolling stock (AAR Association of American Railroads / AREMA American Railway Engineering and Maintenance-of-way Association Standards, central buffer coupling, often high axle loads). The gauge used is the standard 1435 mm gauge.

Apart from industrial and mining railways, all that exist nowadays are state-owned companies. The large fleets of ren-

ted and leased wagons and engines that are typical for Europe these days do not exist here. Trains are pulled by engines; motor coaches (diesel or electric) for passenger traffic can be found very sporadically (except in underground & tram systems).

Bahrain

The expansion of the current road causeway between Bahrain and Saudi Arabia to include an additional new direct railway link to the SRO railway network is currently «on hold», as are the plans to link Bahrain and Qatar with a rail-road causeway between the capitals of Doha and Manama.

Libya

The planned Libyan coastal network should be used for combined traffic and consist of two tracks over its entire length. A branch to the Sahara in the south (with a prospective international link in the distant future to Chad and Niger) was planned for phosphate mining. But only very few tracks currently exist in Libya.

UAE

Abu Dhabi and the north-western Emirates are building the coastal railway line to the border with KSA – it should be completed around 2013/14 (diesel operation). Standards: AAR/ AREMA. The electrification of the UAE network has been postponed indefinitely. 90% of the rail traffic here is freight traffic, above all containers in double-stack trains.

Qatar

The Qatar railway services will focus on high-quality passenger traffic and commuters in view of the 2022 FIFA World Cup. Express traffic and underground plus light rail. It remains to be seen whether freight traffic will run – if so, containers will again dominate the business. Axle loads on the routes in Qatar are expected to be limited to 25 tons.

Egypt

The railway system is in urgent need of renewal, in terms of both the system and infrastructure. There is a good chance that

the Nile valley route to Luxor and Aswan will see more freight traffic in future, provided a logistics system that can compete with trucks is installed. Long-distance passenger traffic is currently dominant (cheap rival to aircraft & bus). The continuation of the route from Assuan to the Sudanese border is almost finished – but construction work is in hold at present.

Jordan

The Rail Master Plan has been drawn up. The Jordanian railway network will be a fundamentally important link in the connection between the Middle East and Europe – as well as Syria. Freight traffic also dominates in Jordan.

Syria

Syria is an indispensable key element for future rail transit to Europe. The railway network that has already been carefully and extensively planned is to be modernised and extended to make it more efficient. There is definitely a demand for transport (freight/container & passengers) – the road infrastructure is run down and cannot cope with any more traffic.

Oman

The connection from Muscat to UAE should be completed on time around 2014 / 15. If the Port-Salah link is also realised by approx. 2018, there will very likely be some fundamental changes in the containerised flows of goods on the Arabian Peninsula. Salah itself, a deep water port without any hinterland to generate demand, is a very important hub for global Asian shipping.

KSA (Saudi Arabia)

A 30-year Railway Master Plan was recently completed. A number of new lines will be built in the near future. Purpose: freight traffic and increased economical development of the country. The «Mineral Line» built and operated by the

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SAR Saudi Railways Corporation crosses the country to the north of Riyadh and in future will connect up to the capital. The SRO Saudi Railways Organization currently operates an east-west network from Dammam to Riyadh. Further lines (including the so-called «Landbridge» from Riyadh to Jeddah and along the

«A 30-year Railway Master Plan was recently completed. A number of new lines will be built in the near future.»

Gulf coast from Dammam up to Jubail and Ras Azzawr) are being planned and/or are already being tendered or built. All of the lines (except the Mecca – Medina High Speed Line) will probably be operated as combined lines with freight and passenger traffic as required, with an obvious focus on container transports. Construction and operating standard: AAR/ AREMA.

Iraq

There is a demand for new engines & wagons here – however, the infrastructure is rather exhausted, any services that currently exist are at best rudimentary.

Iran

The UNESCAP and ESCWA plans lead us to assume a high-speed line towards Pakistan in future. An «Iron Silk Road» for freight traffic will be a political topic in future. However, Saudi Arabia is not interested in the often planned rail-ferry link via Bandr Abbas (much less the physical «Causeway» project) in the foreseeable future.

Yemen

A link from Abha/Kamis Mushait to Sanaa and from here possibly further to the border with the Sultanate of Oman/Salalah Port, for example, has once again been postponed (time frame > at least 10 years). The focus is on freight traffic, and again containers. The prospective link Sanaa–Jizan–Jeddah Mecca/Medina would also benefit pilgrims traffic.

Sudan

The Port Sudan – Khartoum link (standard gauge) will probably have to be re-planned in part. Railway construction work / projects in neighbouring countries (including Egypt, Chad) have been stopped for the time being. New railway construction projects in Sudan pertain to standard gauge – the existing cape gauge network, wherever it is still operational, will probably remain active during the construction phase for new routes that will last several years – it is doubtful whether it will then be retained and operated from today's point of view. Freight and passenger traffic are of roughly equal importance.

Summary

There's a lot going on in Arabian railways; a big growth market has developed in the

«There's a lot going on in Arabian railways.»

region which will last for at least a further 10 – 15 years. ■

Another breakthrough for CRSC freight wagon liability insurance as additional «profit protection» and common insurance solution for wagon owners



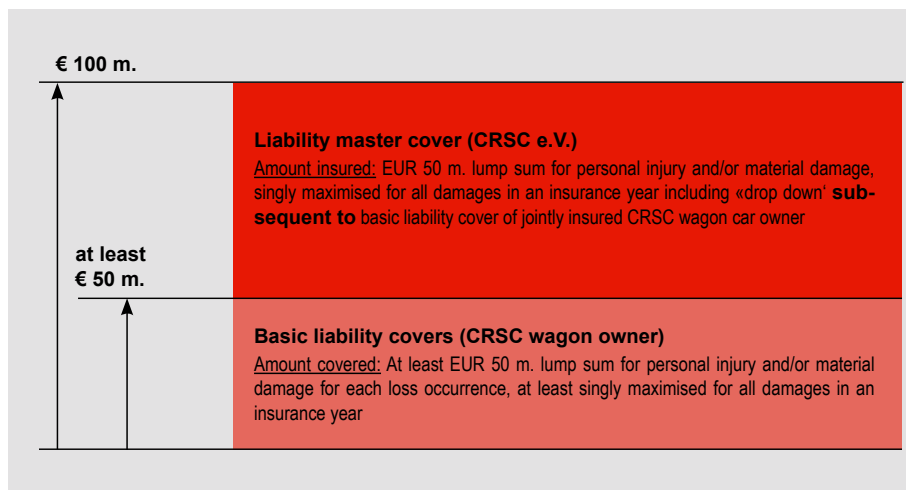
Following the successful realization of a European insurance solution for affiliated member workshops in 2010, a concept has now been implemented for wagon owners. The placement was made through an insurance broker who is also a member.

With Cargo Rail Service Center CRSC e.V. as the policyholder, affiliated wagon owners can now increase their own (proven) insurance coverage to a total of max. € 100 m. lump sum for personal injury and/or material damage for each loss occurrence. Corresponding capacities no longer have to be purchased through individual CRSC wagon owners, resulting in a big cost advantage – in view of the high minimum premiums that are common on the market. The insurance coverage also extends to the administration of rights and duties of the Entity in Charge of Maintenance (ECM) on the basis of EU Directive 445/2011. This also applies if third parties are commissioned or this function is assumed through the management of freight wagons for third parties.

The pro-rata premium is paid according to an apportionment procedure by the co-insured CRSC wagon owner who applies for co-coverage under the insurance and

amounts to a fraction of a separate, individual insurance. ■

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On our behalf

WASCOSA's online presence in a new look

Clearer, more user-friendly and in line with our corporate identity: WASCOSA's online presence has been given a general overhaul.

The navigation system has been designed to be as intuitive as possible and offers a wide range of information; proven and popular areas can, of course, still be found on the new website online. ■



You are warmly invited to «go ahead» and discover the new website yourself.

You are only a click away from www.wascosa.ch!

Long-term cooperation pays off

Alcosuisse has trusted in WASCOSA to manage its wagons for many years. The growing number and complexity of tasks and responsibilities of the wagon owner through ECM are confirmation that this was the right decision. «As the wagon owner, WASCOSA takes care of all former and new tasks and responsibilities of the wagon owner for us. This also includes the ECM function», explains Pierre Schaller, Director of Alcosuisse.

Alcosuisse, the profit centre of the Swiss Alcohol Board EAV, has been a largely independent organisational unit since 1998 that is responsible for trade with high-strength alcohol and ethanol. Alco-

«Alcosuisse uses rail as its preferred means of transport.»

suisse uses rail as its preferred means of transport. Alcosuisse has cooperated with WASCOSA for many years. «The obligations of a wagon owner have grown enormously in recent times on account

of the ECM (Entity in Charge of Maintenance) and are becoming increasingly complex and complicated. We profit from the team of specialists by transferring the management of the fleet to this progressive company from Lucerne, leaving our resources free for our core business», says Pierre Schaller, Director of Alcosuisse. The reliability of planning at Alcosuisse is very high on account of the active management of the fleet of wagons by WASCOSA. This is thanks to a professional maintenance management system that guarantees a low failure rate for the fleet of wagons. ■

«We profit from the team of specialists by transferring the management of the fleet to this progressive company from Lucerne, leaving our resources free for our core business.»

Pierre Schaller,
Director, Alcosuisse



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RID 2013 – Important new developments

The 50th conference of the Specialist Committee on the Transportation of Hazardous Goods was held between 21 and 25 November 2011 in Malmo. The main topics were the amendments to RID and ADR 2013 which had been discussed by the common conference in the last meetings. These amendments have been partly generated by the new UN model regulations, in part as the consequence of applications from member states and NGOs, and relate to the normal further development of the laws on hazardous goods in a 2-year cycle. Not all of the texts for 2013 have been approved as yet; the RID Specialist Committee met again in May 2012 so that it could approve the final amendments to RID 2013 in due time. The total, unconsolidated scope of these alterations and changes amount to approx. 150 A4 pages. However, these often contain practical aids as well as clarifications and specifications of provisions that are already in force. Very few relate to transports in tank wagons directly. The most important amendments are explained in more detail below.

Regulations on modifications and conversions of tanks whose type approval has expired or been withdrawn

The Tank Study Group discussed the principles and consequences of the text proposed by the UIP in the informal document INF.42, which was used as a basis, in great detail. Today's situation no longer allows any adjustments to tanks as soon as the type approval becomes invalid. And through the introduction of the standard and the ruling that tanks may only be built in accordance with the standard (see 6.8.2.6.1 RID 2011), a situation arises whereby it will be very difficult to demonstrate that a number of tanks satisfy the standards and can therefore be

converted. The Tank Study Group debated the resulting problems and agreed that each responsible authority or appointed office should be able to issue a certificate of approval for a modification to existing tanks regardless of which responsible authority issued the original type approval. This decision is very significant for operators of tank wagons! «6.8.2.3.4 In the case of a modification of a tank with a valid, expired or withdrawn type approval, the testing, inspection and approval are limited to the parts of the tank that have been modified. The modifications shall meet the provisions of RID/ADR applicable at the time of the modification. For all parts of the tank not affected by

the modification, the documentation of the original type approval remains valid. A modification may apply to one or more tanks covered by a type approval. A certificate approving the modification shall be issued by the competent authority of an RID Contracting State or by a body designated by this authority and shall be kept as part of the tank record.»

Check that closing devices are leakproof: Obligations of the filler

According to the provisions of RID, the filler has the following obligations:

1.4.3.3 Filler; The filler shall ensure

- a) he shall ascertain prior to the filling of tanks that both they and their equipment are technically in a satisfactory condition;
- b) he shall ascertain that the date of the next test for tank-wagons, battery-wagons, demountable tanks, portable tanks, tank-containers and MEGCs has not expired;
- c) he shall only fill tanks with the dangerous goods authorized for carriage in those tanks;
- d) he shall, in filling the tank, comply with the requirements concerning dangerous goods in adjoining compartments;
- e) he shall, during the filling of the tank, observe the maximum permissible degree of filling or the maximum permissible mass of contents per litre of capacity for the substance being filled;
- f) he shall, after filling the tank, check the leakproofness of the closing device;
- g) he shall ensure that no dangerous residue of the filling substance adheres to the outside of the tanks filled by him;
- h) he shall, in preparing the dangerous goods for carriage, ensure that the orange plates and placards or labels prescribed are affixed on the tanks, on the wagons and on the large and small containers in accordance with the requirements;

- i) he shall, before and after filling tank-wagons with a liquefied gas, observe the applicable special checking requirements;
- j) he shall, when filling wagons or containers with dangerous goods in bulk, ascertain that the relevant provisions of Chapter 7.3 are complied with.

The provision in f) would therefore require a leak test to be carried out after every filling procedure. RID knows no graduation here! A leak test of closing devices is a leak test of all 3 consecutive closing devices, on both sides of the tank wagon! Apart from the fact that this would be a huge amount of work it has to be said in all fairness that this is not what was meant. So how do the corresponding passages read as of 2013: 1.4.3.3 f) contains the following wording: «f) He shall, after filling the tank, ensure that all closures are in a closed position and that there is no leakage;». And the following amendment is to be made in section 4: 4.3.2.3.3 The two last sentences shall contain the following wording: «After filling, the filler shall ensure that all the closures of the tanks, battery-wagons and MEGCs are in the closed position and there is no leakage. This also applies to the upper part of the dip tube.»

Modification of wagon plates

RID specifies the following for tank wagons for gases (class 2): 6.8.3.5.6 In addition to the particulars described in 6.8.2.5.2, the following shall be inscribed on both sides of the tank-wagon or on plates: There then follows a number of details. At present this information can be found in all practical and impractical places, sometimes on the carrier or the undercarriage, or goodness knows where else. The RID Specialist Committee has determined that the introductory sentence should have the following wording: «The following information



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must be provided on both sides of the tank-wagon (on the tank itself or on plates): «However, this in detail important amendment receives a transitional regulation: 1.6.3.41 Tank-wagons constructed before 1 July 2013 in accordance with the requirements in force up to 31 December 2012, but which do not, however, meet the marking provisions of 6.8.3.5.6 applicable as from 1 January 2013, may continue to be marked in accordance with the requirements applicable up to 31 December 2012 until the next periodic inspection after 1 July 2013. ■

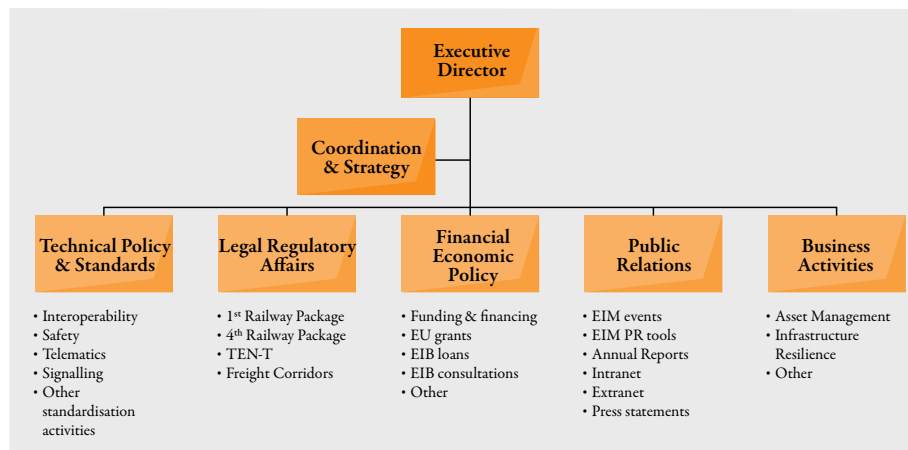
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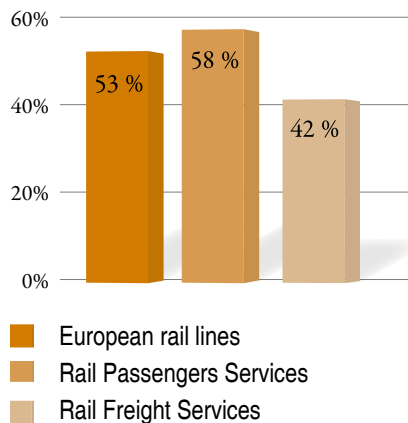
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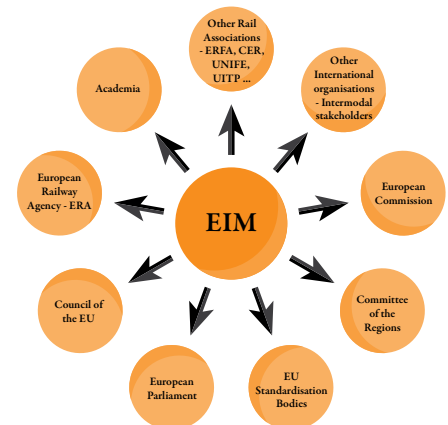
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Target groups





CRSC Maintenance Workshop was a great success

More than 50 experts for the maintenance of freight wagon wheelsets came together at Franz Kaminski Waggon GmbH in Hamm on 24 April 2012 under the leadership of the «Kompetenz-Zentrum ECM». The goal of this event was an exchange of experience with current maintenance measures for wheelsets, a component that is eminently relevant for safety. «By far the best workshop I have attended», said one participant in this workshop.

The «Kompetenz-Zentrum ECM» is an institution of Cargo Rail Service Center CRSC e.V. Under the leadership of Dipl.-Ing. Volkmar Gassmann (RailQ, the maintenance manager) the «Kompetenz-Zentrum ECM» deals with everything related to the new EU Directive 445/2011/ECG («ECM Directive») and its practical consequences for the maintenance of freight wagons. From the treatment and processing of wheelset axles, the non-destructive testing of wheelsets during maintenance (refer overview on the last page too), the topic of grease leaks from wheelset bearings

«By far the best workshop I have attended», said one participant of the CRSC Maintenance Workshop.

through to the coating of wheelsets, technical possibilities and their effects on safety were examined jointly and possible solutions shown.

A key task of this sector is the constant improvement of maintenance, and there-

fore safety, in rail-freight traffic. The maintenance of components that are relevant for safety plays a crucial role. The

«A key task of this sector is the constant improvement of maintenance, and therefore safety, in rail-freight traffic.»

«Kompetenz-Zentrum ECM» plans to give employees directly involved in the maintenance process the opportunity to optimise existing processes and - in cooperation with experts-exchange experiences that should benefit both their own processes and help further develop the maintenance specifications in workshops, amongst others, so that the experience gained through maintenance can be put to further use.

These workshops are planned at least twice a year. A workshop on the topic of freight wagon brakes is scheduled for the autumn of 2012. ■

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About the CRSC

Cargo Rail Service Center CRSC e.V. is a European syndicate of workshops, wagon owners, shippers and industrial partners from the field of rail-freight traffic. The association offers its members practical solutions in the fields of:

- liability (CRSC workshop and CRSC owner insurance),
- ECM in practice (CRSC workshops) and
- communication (CRSC workshop platform).

With its ECM Competence Centre and more than 60 members throughout Europe, the CRSC has an effective network to help improve the competitive strength of rail-freight traffic.

Are you interested in becoming a member?

Every owner and every workshop can benefit from a membership.

New at WASCOSA



Claudia Steiner, Controlling & Investor Relations
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Claudia Steiner isn't really a new face at WASCOSA: the qualified businesswoman for trust/real estate trustee has helped out in the WASCOSA accounting department during her studies since 2009. She now has her Bachelor of Science in Business Administration and has been working full-time in the Controlling & Investor Relations team since July.

WASCOSA gives Claudia Steiner the chance to work in an exciting and innovative line of industry and to grow with

the company. She is characterised by a pragmatic approach to work, a networked and solution-based way of thinking and her orientation to customer needs. Her positive, friendly nature benefits not only the team; her contacts with investors and customers are also characterised by frank and direct communication. She can hereby rely on her French and English language skills. ■



Isabella Zuschnigg, Spare Parts and Wheelset Management
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Isabella Zuschnigg has been working in the Administration Department at WASCOSA since December 2010, and since August 2011 she has had an 80 percent full-time job in the Spare Parts and Wheelset Management team. Following training as a switchboard operator she attended a commercial school and spent several months in England and Costa Rica.

She is very reliable, works well in a team and accepts criticism; what she likes about

WASCOSA is that she can plan her own work. She also appreciates the opportunity of working part-time. If she is ever at a loss – a very rare occurrence – she remembers the following maxim: «Your failings are better teachers than your successes. You can often find the right path by discovering what doesn't work.» ■

Credits

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Calendar

2012

13.06.2012 Vienna (AT)	WASCOSA ECM fleet management seminar	Info: WASCOSA AG marketing@wascosa.ch / www.wascosa.ch
14.06.2012 Münster (DE)	Technical Information Event of the VPI	Info: Vereinigung der Privatgüterwagen- Interessenten mail@vpihamburg.de / www.vpihamburg.de
15.06.2012 Münster (DE)	VPI Members Meeting	Info: Vereinigung der Privatgüterwagen- Interessenten mail@vpihamburg.de / www.vpihamburg.de
20.06.2012 Brussels (BE)	UIP General Meeting No. 2	Info: UIP Union International d'Associations de Propriétaires de Wagons de Particuliers info@uiprail.org / www.uiprail.org
22.06.2012 Düsseldorf (DE)	WASCOSA ECM fleet management seminar	Info: WASCOSA AG marketing@wascosa.ch / www.wascosa.ch
31.08.2012 Zurich (CH)	VAP General Meeting	Info: VAP Switzerland vap@cargorail.ch / www.cargorail.ch
September 2012 (DE)	CRSC-Workshop Topic «freight wagon brakes»	Info: Carco Rail Service Center CRSC e.V. info@crsc.ch / www.crsc.ch
14.09.2012 Paris (FR)	WASCOSA ECM fleet management seminar	Info: WASCOSA AG marketing@wascosa.ch / www.wascosa.ch
18.–21.09.2012 Berlin (DE)	InnoTrans 2012	Info: Messe Berlin innotrans@messe-berlin.de / www.innotrans.de
11./12.10.2012 Antwerp (BE)	IBS Autumn Conference	Info: Interessengemeinschaft der Bahnspedi- teure (IBS) e. V. smulaibs@aol.com / www.ibs-ev.com
06.11.2012 (DE)	CRSC Conference	Info: Carco Rail Service Center CRSC e.V. info@crsc.ch / www.crsc.ch
08.11.2012 Zurich (CH)	VAP Forum Freight Car Autumn Conference	Info: VAP Switzerland vap@cargorail.ch / www.cargorail.ch
20.11.2012 Hamburg (DE)	VPI Symposium «Rail-freight traffic in the economic and political environment»	Info: Vereinigung der Privatgüterwagen- Interessenten mail@vpihamburg.de / www.vpihamburg.de

Overview of individual wheelset maintenance levels

Wheelset analysis/reconditioning	When?	Work content
IL Bearing analysis	<ul style="list-style-type: none"> Wheelsets with inadmissible grease leak from wheelset bearing Wheelsets that have not been used for more than 2 years since the last bearing analysis Wheelsets whose bearings have stood in water Wheelsets with loose/lost wear plates or more than two torn tack welds on each plate 	<ul style="list-style-type: none"> Repair or replace coating, markings and corrosion protection Supplement marking on data tape and/or wheelset marks Documentation (data sheet acc. to VPI 04, Attachment 26)
ISO Inspection	<ul style="list-style-type: none"> On the occasion of every running gear revision G 4.0, G 4.2, G 4.8 acc. to VPI 04 	<p>Inspection criteria acc. to VPI 04/Attachment 18</p> <p>e.g.:</p> <ul style="list-style-type: none"> Visual inspection of the wheelset (data tape, wheel disc, axle, running tread) and determination of the values Sd, Sh, qR
IS1 Profiling	<p>Acc. to the inspection criteria VPI 04, Attachment 18.</p> <p>e.g.:</p> <ul style="list-style-type: none"> When the critical values Sd (flange thickness), or Sh (flange height), or qR (flange flank size) have been reached or if the running tread is damaged (splintering, seams, etc.) 	<p>Work and test steps acc. to VPI 04, Attachment 4</p> <p>e.g.:</p> <ul style="list-style-type: none"> Profile wheelset Mark wheelset data tape/wheelset mark
IS2 IS1 + bearing analysis + NDT of axle/disc	<p>Acc. to the inspection criteria of VPI 04, Attachment 18.</p> <p>e.g.:</p> <ul style="list-style-type: none"> After a max. of 600,000 km or for tank wagons max. 12 years (mileage ≤ 50,000 km p.a.) for freight wagons max. 8 years (mileage > 50,000 km p.a.) 	<p>Work and test steps acc. to VPI 04, Attachment 4</p> <p>e.g.:</p> <ul style="list-style-type: none"> Remove, dismantle, clean, inspect, measure, grease, repair the wheelset bearing if necessary or re-profile the wheelset Non-destructive testing of the wheelset axle/disc (magnetic powder and ultrasound test) Wheelset assembly Classify the surface condition of wheelset axles in fault classes
IS3 IS2 + new discs/axles + NDT of axle	<p>Acc. to the inspection criteria of VPI 04, Attachment 18</p> <p>e.g.:</p> <ul style="list-style-type: none"> Cracks in axles and/or disc Clamping grooves that cannot be eliminated Identification groove invisible on complete circumference of solid wheels 	<p>Remove, dismantle, clean, inspect, measure, grease, repair or replace the wheelset bearing if necessary</p> <ul style="list-style-type: none"> Press off old wheel disc/press on new wheel disc Non-destructive testing of the wheelset axle (magnetic powder and ultrasound test) Possibly replace the wheelset axle