



Reducing noise with K-blocks, and then?

The problem of noise will become even more pronounced in the next few years. Low-cost and efficient solutions are in as much demand as ever from technology. But unlike other problems in freight traffic, however, the number of companies that will have to cooperate to achieve the goals is much greater than usual in the sector. This affects not just all wagon owners and the rail transport companies, but also the infrastructure.

Achieving goals together

Dear readers, Raising the population's awareness for the problem of noise was long restricted to mainly air and road traffic. Increased attention has recently been devoted to rail traffic. One is tempted to say that there is a lot of catching up to do. Because it is indisputable that today's brake technology for freight wagons – braking with blocks on the running treads of the wheelset – stems from the days of the horse and cart. In the past, no one was prepared to change to more innovative technologies for cost reasons. The wheel noise of freight wagons with grey cast iron tread brakes can be significantly reduced by using blocks of composite material. However, this conversion work has to be affordable and take place within a sensible period of time. It is also important to remember that the wheel noise is produced by the interaction of the wheel and rail. It has been proven that the development of noise can also be noticeably reduced by suitable measures on the track system. The individual countries with their infrastructure operators are thus clearly responsible for systematically exploiting this potential so as to bring about an adequate and affordable solution.

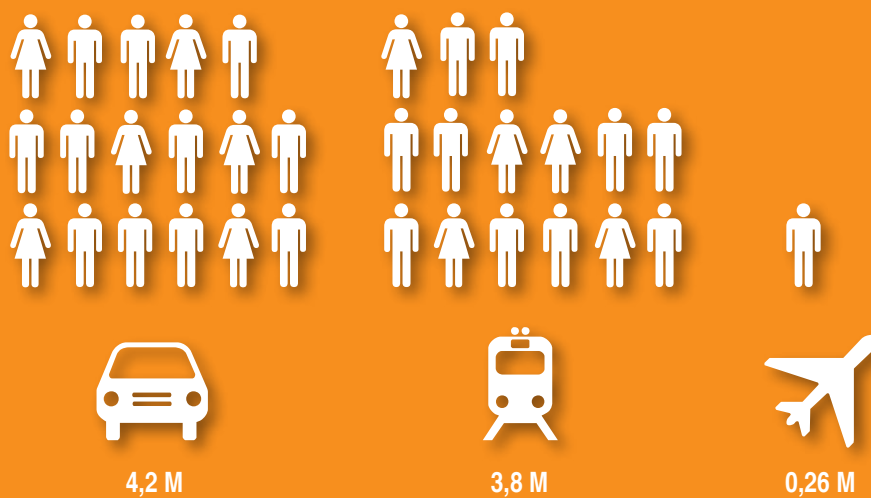


Figure 1: Noise pollution at night (10 p.m. to 6 a.m.) by various carriers in Germany

Source: Federal Environment Agency Noise Balance 2010

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Philipp Müller
Delegate of the Board of Directors

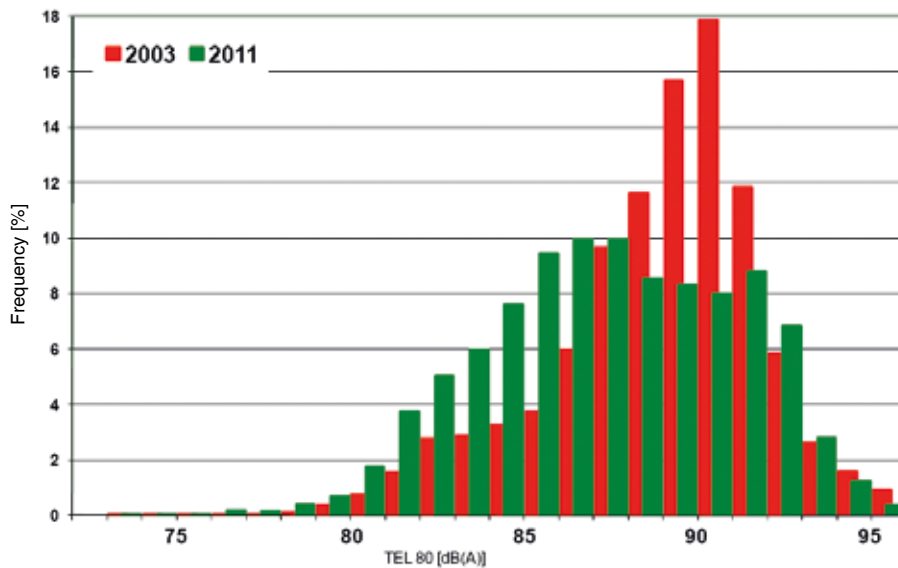


Figure 2: Frequency distribution of freight train noise Steinen 2003 and 2011, standardised to V=80 km/h

An article on this topic has already been published in the WASCOSA infoletter, Edition 19/June 2012.

Traffic noise pollution in 2010 for citizens of Germany

Figure 1 shows the actual nighttime noise pollution to which citizens of Germany are exposed from various types of traffic. Just how they are affected is determined by an energy-equivalent, continuous sound level of 50 dB (A) and more. Although the transport capacity on rails is much lower than on roads, the noise pollution is roughly the same. The conversion of the individual passing trains into the energy-equivalent continuous sound level is shown in Figure 2.

One big problem of the effect of acoustic measures is the logarithmic addition. The total noise L_{ges} is the result of the addition of partial sources L_i according to the following equation:

$$L_{ges} = 10 \log \sum_i 10^{0,1L_i}$$

This means that a few, loud sources determine the noise level. The full benefits are only felt when no other sources except quiet ones exist. The conversion of SBB freight wagons to K-blocks between 2003 and 2010 and the acquisition of new wagons with K-blocks become very apparent in the monitoring stations, Figure 2.

Maximum and minimum noise values

Figure 2 shows that the maximum and minimum noise values (96 dB and 73 dB(A)) have not changed between 2003 and 2011, but that the number of slight-

ly quieter wagons has increased and the number of louder ones decreased.

Results from Swiss monitoring stations

What is noticeable in Figure 3 is that despite the increase in the volume of traffic at almost all monitoring stations, there has nevertheless been a slight reduction in noise. However, this reduction is quite small, even though the reduction of noise on SBB wagons of approx. 10 dB is by all means considerable. The new, quieter wagons of the private wagon owners will have a greater effect on the account of the logarithmic addition, i.e. the cost-benefit relation improves!

What is also conspicuous is that the level in Wichtrach is much higher than that in Itingen, even though the traffic load here is lower. The reason for this is the very loud track in Wichtrach, which was laid almost 30 years ago, is very worn and has been repaired with short, welded sections of rail. This will be replaced in 2013.

There has not been any significant reduction of noise in Walenstadt between 2003 and 2011. A silent track type, bi-block sleeper with UIC 54 rail in a worn condition, was replaced by a louder one, monoblock sleeper with UIC 60 rail, in

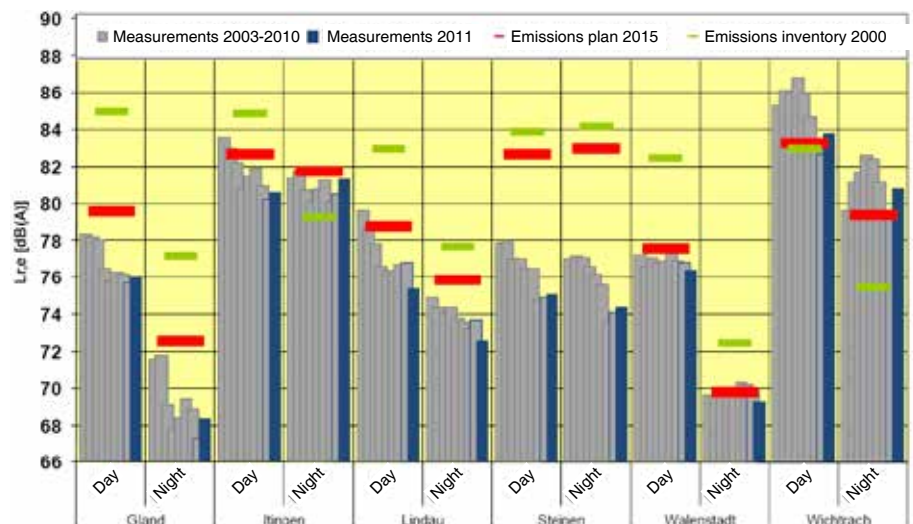


Figure 3: Results from all Swiss monitoring stations

2006 and the speed was slightly increased. Changes to several parameters mean that it is no longer possible to clearly separate the causes and effects. According to the Wascosa Infoletter 20, page 6, track system strategy 2013, the track in Wichtrach will be renewed by the same kind of track as is already in place. A significant reduction in noise can thus be expected for the 2014 monitoring values on account of the better quality track.

One important acoustic parameter is the attenuation, which is described by the track decay rate, Figure 4. In terms of the case described above for Walenstadt, it can be seen that the dismantled track with bi-block sleeper and UIC 54 rail has a much higher attenuation, particularly in the range above 630 Hz, than the other track constructions and therefore has much better properties than the new track, concrete B 91, UIC 60 rail, installed in Walenstadt.

These two examples show that the type and condition of the track already have a significant influence on the noise behaviour. This influence will continue to grow

«The type and condition of the track already have a significant influence on the noise behaviour.»

with an increasing share of quiet freight wagons. On account of the long lifetime of the tracks, which can easily amount to 30 years on heavily-used sections such as the straight sections in Wichtrach, the infrastructure today has to take into account the quieter situation of the vehicles and both quiet tracks and quiet vehicles will soon have to become standard.

The ventilators of the locomotives will also have to become quieter. A satisfactory situation for the noise pollution from

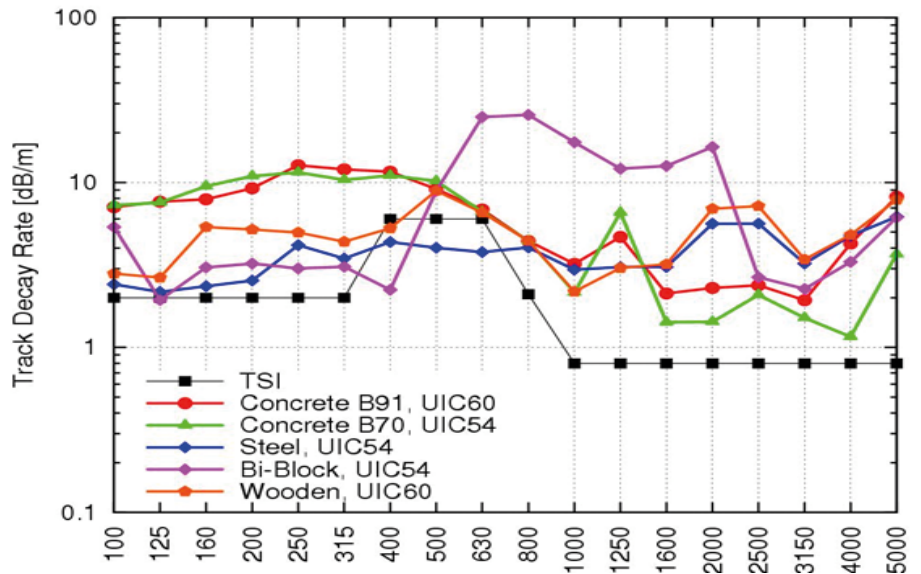


Figure 4: Attenuation behaviour of various track constructions

Source: TU Berlin/sonRAIL

rail-freight traffic can only be achieved in future through a combination of the different measures. This has to begin as early as possible on account of the long time needed until the measures take effect.

Summary

Noise reduction can only be successful if all partners play their part. Wagons, locomotives and tracks have to become quieter. Since the partners can only reduce the noise at affordable costs during normal maintenance, the measures on the tracks and locomotives have to begin as quickly as possible, in particular before the last freight wagon with grey cast iron brakes leaves Switzerland. This is the only way to protect the population against noise from railways within a reasonable time and to assert the environmental advantages of rail transport. ■

Further information:

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Personal details

Prof. Dr.-Ing. Markus Hecht ...

- ... worked in industry as the Head of Measurement Engineering and Deputy Head of Engineering at the Swiss Locomotive and Machine Works.
- ... has been in charge of the Rail Vehicle Department at the TU Berlin for 15 years and with his team of around 20 staff carries out research and industrial projects exclusively on rail vehicles and tracks, above all in rail-freight traffic.
- ... trains around 25 students every year, almost all of whom begin their careers in railways.
- ... has been on the Innovation Advisory Board of SBB Infrastructure since 2011 and has been one of 2 coordinators of the Technical Innovation Group for Rail-Freight Traffic since 2010.

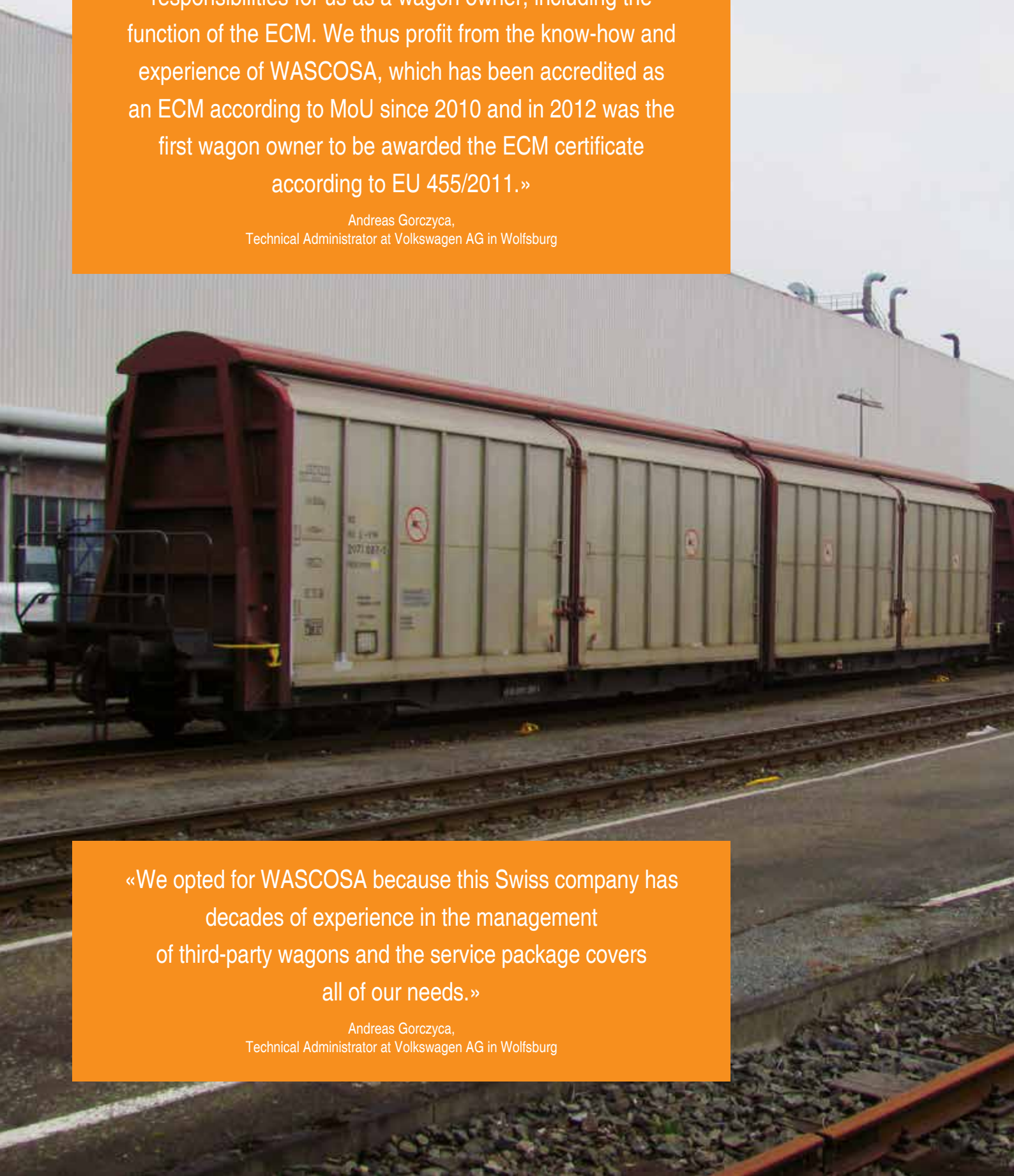


«WASCOSA takes care of all former and new tasks and responsibilities for us as a wagon owner, including the function of the ECM. We thus profit from the know-how and experience of WASCOSA, which has been accredited as an ECM according to MoU since 2010 and in 2012 was the first wagon owner to be awarded the ECM certificate according to EU 455/2011.»

Andreas Gorczyca,
Technical Administrator at Volkswagen AG in Wolfsburg

«We opted for WASCOSA because this Swiss company has decades of experience in the management of third-party wagons and the service package covers all of our needs.»

Andreas Gorczyca,
Technical Administrator at Volkswagen AG in Wolfsburg





WASCOSA at the transport logistic 2013

Welcome to the world of transport logistic. Who's who in the industry meet up again between 4 and 7 June 2013 at the world's biggest trade fair for transport and logistics in Munich. Visit WASCOSA in the outdoor area, block 704/5, track 3/3. Under the motto of this year's trade fair «going new ways», Europe's most progressive freight wagon leasers once again present more innovations from their fleet of wagons.

going new ways

The record attendance at the last transport logistic in 2011 speaks for itself: with 1,893 exhibitors from 59 countries, the event

«The leading European trade fair is well on its way to becoming a world fair.»

was more international than ever before. The high presence of international exhibitors was very remarkable: 44% were from abroad! The leading European trade fair is well on its way to becoming a world fair.

WASCOSA's stand can once again be found in the outdoor area, block 704/5, track 3/3. «It's not just the trade fair itself that is <on its way> to becoming a world

fair, WASCOSA too is <going new ways> and presents the new industrial standard for optimised safety in the transportation of hazardous goods», explains Philipp Müller, Delegate of the Board of Directors of WASCOSA. «We are looking forward to numerous and interesting contacts with our business partners at the trade fair.» ■

Visit WASCOSA!

Outdoor area block 704/5, track 3/3.

Interesting co-exhibitors at WASCOSA

Find out more first hand and convince yourself on site!



Brake systems for freight wagons in Europe

Freight wagons are regarded as being slow, loud and usually dirty. They are not prestigious «high-end» vehicles such as a high-speed train. Nevertheless, they do have some very interesting components that are ideally matched to the widespread needs of their users. The brake equipment plays a key role here since it is responsible for the safety and limits the speed at which freight trains can travel. And it also has a determining influence on the time needed for the maintenance of the wagons over their long lifetime.

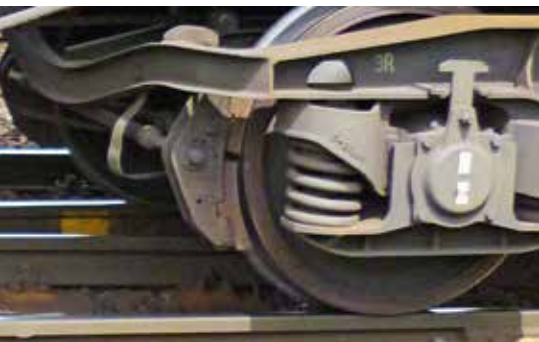


Figure 1: Tread brake



Figure 2: Disc brake



Figure 3: Compact brake

Two features in particular of how freight wagons are used are decisive for their brake technology: the wagons travel throughout Europe and have to be able to be coupled together with hundreds of thousands of other wagons into a train without any problems. What's more, they must be able to be operated easily and serviced with the least possible time and effort in all countries. This is why the freight wagon brake has been consistently standardised and optimised in terms of its simplicity, robustness and reliability with, at the same time, low costs.

It thus comes as no surprise to learn that almost all freight wagons use the tried-

«Compact brakes offer space and weight advantages as well as less installation and maintenance work, depending on the manufacturer.»

and-tested tread brake and electric brakes have hardly been an issue to date. Alternatives such as compact brakes or disc brakes are only slowly, but increasingly, beginning to be used. Compact brakes offer space and weight advantages as well as less installation and maintenance work,

depending on the manufacturer. Disc brakes have high original costs, but avoid the wheel wear caused by braking and reduce the costs of wheelset replacements on wagons with high mileages. What's more, they are the quietest type of brake.

A basic feature of the standard UIC brake is the continuous brake pipe BP (normal working pressure 5 bar). It supplies the brake with compressed air and at the same time it controls the brake force. Changes in pressure in the BP are only dissipated at the transmission speed (approx. 280 m/s). The brake's reaction is slowed down artificially in long trains so that no inadmissibly high in-train forces; this is achieved inasmuch as the distributor valve increases and decreases the brake cylinder pressure

An overview of typical brake equipment in freight wagons can be found on the last page of this edition.

in the brake position «G» much more slowly than in the brake position «P». The required brake position is set at the change-over device G-P.

Adjustment and operation

The «brake weight» was introduced so that the adequate brake ability of a train can be quickly and easily determined during railway operations. The braking distance from fixed speeds is determined by test drives or a brake calculation for each new type of vehicle within the scope of the approval procedure. The brake weight «B» (in tons) is then determined from the tables of UIC 544-1. The ratio of brake weight and current vehicle weight is the «brake percentage λ ». Trains require the so-called «minimum brake percentage» to travel a given route at a certain speed.

Load-controlled brake adjustment and brake force

On account of their high payload/unladen weight ratio, freight wagons require a load-controlled brake adjustment to adapt the brake force. This affects the brake cylinder pressure and, with an empty vehicle, prevents the wheels blocking on account of an excessively high brake force and also ensures compliance with the permissible braking distance of the laden vehicle. The two-stage load change (e.g. for tank wagons) only differentiates between «unladen» and «laden». Freight wagons with a variable load require a more precise adjustment of the brake force. These are fitted with a load-proportional brake adjustment, where the brake cylinder pressure rises continuously with an increasing load until it reaches its maximum value of 3.8 bar at the so-called end of load adjustment. With a further increase in the load up to the maximum weight, the vehicle's brake percentage then declines. The load-controlled brake adjustment is controlled for each bogie in wagons with an unevenly distributed load.

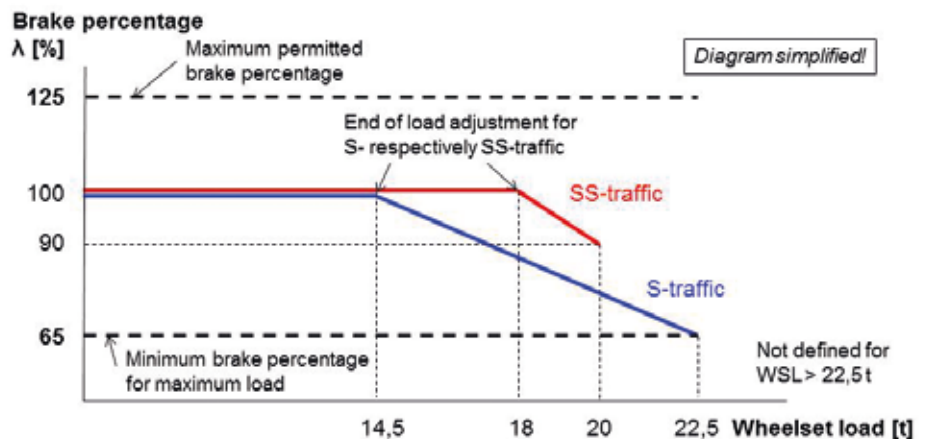


Figure 4: Brake percentage curve for S- and SS-traffic depending on the load

Exact rules apply for a vehicle's brake percentage curve to ensure that the in-train forces can be safely controlled with differently laden wagons too. Depending on the load and the permissible maximum speed, a differentiation is made between brake equipment for S-traffic (simplified $V_{max} = 100$ km/h) and for SS-traffic (simplified $V_{max} = 120$ km/h). These two categories are today's standards, freight wagons with lower maximum speeds are becoming rarer.

Despite the high degree of maturity of freight wagon brakes, manufacturers such as Knorr-Bremse are constantly working on further improvements and innovations. Apart from the up-to-the-minute topic of noisy tread brakes (K-, L- and LL-blocks), we would just like to mention the compact freight car brake CFCB, the disc brake, derailment detectors, monitoring and wheel slide protection equipment as trends for the future. ■

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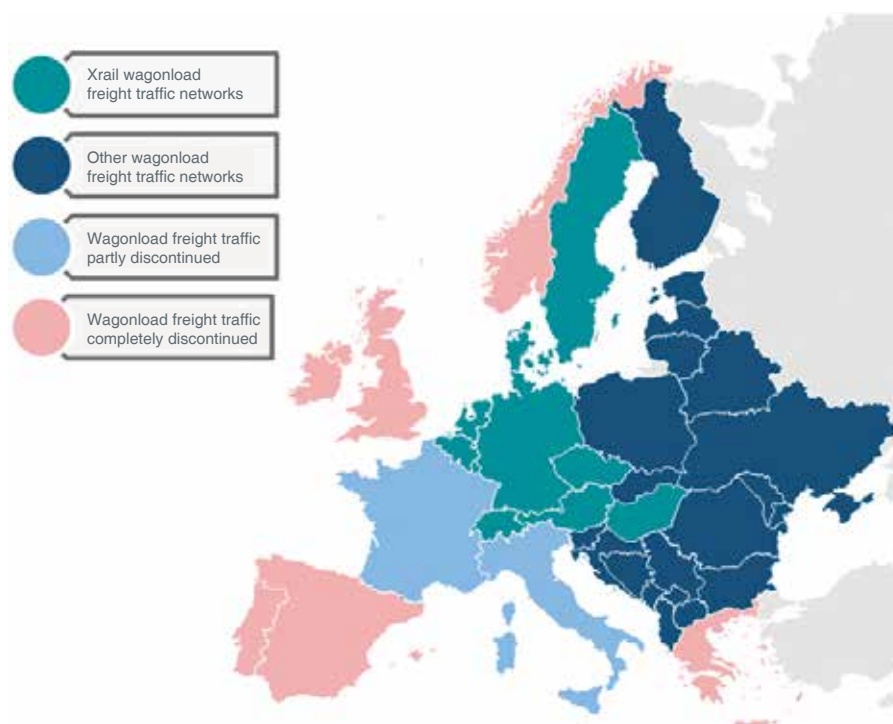
Personal details

Dipl.-Ing. Olaf Metzner ...

- ... is an engineer in Technology of Rail Vehicles.
- ... has been working for 20 years at Knorr-Bremse, several of these in the field of planning brake systems for freight wagons.
- ... is a member of the CEN and DIN FSF Standardisation Committees.

The ViWaS project – Innovations for wagonload freight traffic

Wagonload freight traffic in Europe has been in a difficult situation for several years. On account of the changing freight structures and transport requirements, wagonload freight traffic today only partly satisfies the requirements of shippers. At the same time, wagonload freight traffic is being reduced or phased out in more and more European countries so that the overall wagonload freight traffic system is at risk on a European level.



Wagonload freight networks in Europe

A syndicate of representatives from industry, consulting, university and shippers is developing new technologies and production models for wagonload freight traffic to strengthen its position in the face of competition from other transport systems, particularly road transport, in the ViWaS – Viable Wagonload Production Schemes – project within the framework of the 7th European Framework Programme for Research and Technological Development. The focus of this project is on innovations that can be realised in the short and medium term. These are to be developed

up to a demonstration application in the course of the project. In order to be able to provide applicable results within the 3-year project period, there are deliberately no changes being made to the basic regulatory framework for wagonload freight traffic or any attempts to find comprehensive solution systems for every problem.

Business cases

The later demonstration applications are based on five real business cases in which concrete transport chains are to be optimised:

1. SwissSplit 2

Optimisation of the fine distribution of maritime containers in the Swiss inland traffic network.

2. Integration of Southern Italy in the European wagonload freight network

Existing block train transports for long wood to Southern Italy are opened up for wagonload freight traffic by introducing a further junction in Bologna as a potential hub for wagonload freight traffic from Southern Italy. The development of a collapsible and stackable long wood attachment for the Wascosa flex freight® wagon should make the transports even more efficient so that free space, e.g. for containers, can be provided on the train for the return journey in future.

3. Peat transports from Germany to Italy

The last mile to connect the peat works to the railways will be optimised so that its transport to Italy, France and Switzerland can continue to be handled by the railways in future.

4. Wagonload-based transport of hazardous waste

The goal is the optimisation of transports from the hazardous wastes landfill in Bonfol to various incineration plants in Germany, Belgium and the Netherlands. The most important objective is to optimise the supervision and management of the transports through the use of telematics.

5. District services on French branch lines

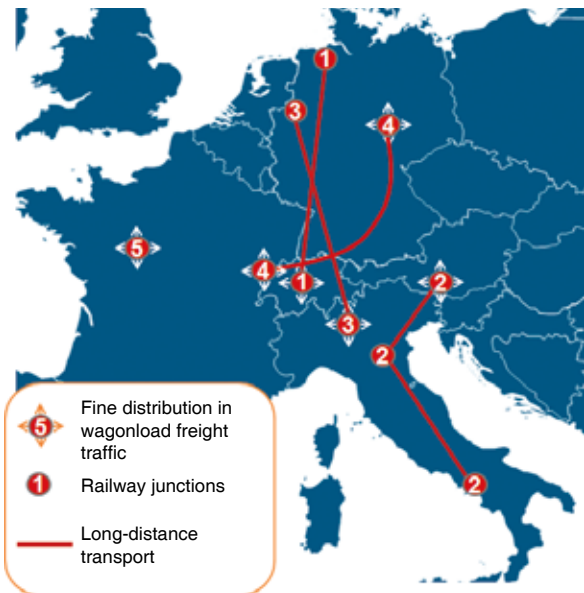
The production processes will be optimised and infrastructure requirements reduced through the use of bimodal rail/road vehicles.

SwissSplit 2

The SwissSplit 2 business case is of particular interest for Switzerland; this is being handled by the Institute for Transport Planning and Systems of the ETH Zurich together with Wascosa and SBB Cargo. The aim is to optimise the fine distribution of maritime containers from the seaports through to the sidings in Switzerland. The potentials of the new terminals Basel-Nord and Gateway Limmattal are to be fully exploited for the direct transfer of containers from the seaport shuttle trains to the wagonload freight traffic in Switzerland.

The first part of the project will investigate whether lower-cost and higher-quality production systems in wagonload freight traffic are possible through the use of new hybrid locomotives, e.g. the Eem 923 «Butler» from SBB Cargo. For example, the use of routes especially in the core area of the heavily-used Swiss railway network can be increased through train coupling and sharing. The entire Swiss wagonload network will be simulated for this purpose. A further optimisation lever is a reduction of the infrastructure requirements since fewer contact lines have to be spanned over branch lines and sidings through the use of hybrid locomotives.

The second part of the business case is the development of a modified container wagon based on the Wascosa flex freight system. The flat wagons of the type R(e)s currently used for container transport in SwissSplit have reached the end of their service life. But the conventional container wagons planned as their replacement cannot be accessed by industrial trucks so that containers cannot be unloaded on ramps. This is why an attachment platform has to be developed for use on container wagons which will also allow containers to be unloaded on ramps in the future. The platform will be loaded onto the wagon



- 1 SwissSplit 2
- 2 Integration of Southern Italy in the European wagonload freight network
- 3 Peat transports from Germany to Italy
- 4 Wagonload-based transport of hazardous waste
- 5 District services on French branch lines

ViWaS business cases



In the WASCOSA flex freight system®, the base unit without timber attachment can continue to be used at any time as a special freight wagon or as a fully-fledged 60t container wagon with further superstructure units.

together with the container in the terminal and delivered to the customer. Apart from the logistical advantages, occupational health and safety as well as handling will also be optimised, resulting in further benefits for the recipient of the container. ■



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Revision of the RID as per 1.1.2013

Safety obligations of the participants according to Chapter 1.4: RID 2013 has a number of amendments and reforms. There are a total of 150 A4 pages of new regulations. These came into force on 1.1.2013, though definitively on 1 July at the end of the general transitional period.

The safety obligations of the participants in Chapter 1.4 of the RID have also been amended. This chapter describes the safety obligations of the participants in great detail. These amendments make standardised checks and a uniform implementation of regulations within the entire scope of ADR/RID possible.

General safety precaution

All parties involved in the transport must take appropriate precautions to prevent

losses and to keep any damage as low as possible. The emergency services must be informed immediately in the event of any immediate risk for humans and the environment.

Obligations of the main participants

This chapter specifies the obligations of all participants involved in the transport of dangerous goods. A differentiation is made between main participants and other participants. The exact definition of terms can be found in Chapter RID 1.2.1

and the safety obligations in accordance with ADR 1.4.2 ff. There follow the most important changes for fillers and unloaders of tank wagons:

1.4.3.3 Fillers

In the context of section 1.4.1, the filler has the following obligations in particular: The filler

- a) shall ascertain prior to the filling of tanks that both they and their equipment are technically in a satisfactory condition; 2011 f) he shall, after fil-

ling the tank, check the leakproofness of the closing device;

New 2013: the mandatory check has been removed, what is required is a guarantee, in other words a check of the processes already performed by others.

«RID 2013: The filler shall, after filling the tank, ensure that all closures are in a closed position and that there is no leakage.»

RID 2013:

f) he shall, after filling the tank, ensure that all closures are in a closed position and that there is no leakage;

A new note has also been inserted:

«NOTE: The filler shall establish procedures to check the correct functioning of the closures of the tank of a tank-wagon and to ensure the leak-tightness of the closing devices before and after filling. Guidelines in the form of checklists for tank-wagons for liquids, issued by the European Chemical Industry Council (CEFIC), are available on the OTIF website (www.otif.org).»

1.4.3.7 Unloaders

1.4.3.7.1 In the context of 1.4.1, the unloader shall in particular:

- a) ascertain that the correct goods are unloaded by comparing the relevant information on the transport document with the information on the package, container, tank, MEGC or wagon;
- b) before and during unloading, check whether the packagings, the tank, the

wagon or container have been damaged to an extent which would endanger the unloading operation. If this is the case, he has to ascertain that unloading is not carried out until appropriate measures have been taken;

The following comment at the end of b) is new:

«NOTE: The unloader shall establish procedures to check the correct functioning of the closures of the tank of a tank-wagon and to ensure the leak-tightness of the closing devices before and after filling. Guidelines in the form of checklists for tank-wagons for liquids, issued by the European Chemical Industry Council (CEFIC), are available on the OTIF website (www.otif.org).»

- d) immediately following the unloading of the tank, wagon or container: (i) remove any dangerous residues which have adhered to the outside of the tank,



The European Chemical Industry Council (Cefic) is the trade association of the European chemical industry and has its headquarters in Brussels. CEFIC represents the political interests of the chemical industry on a European level. The international work is managed by the International Council of Chemical Associations (ICCA), of which Cefic is a member. The council was founded in 1957

under the name Secrétariat International des Groupements Professionnels des Industries Chimiques des Pays de la CEE (S.I.I.C.). Two years later, Cefic was founded. Only the chemical companies of the European Free Trade Association (EFTA) were initially organised in Cefic. The two organisations only came together under the name Cefic in 1972 to better represent the interests of the European indust-

ry in the international council of chemical associations. The organisation was renamed in 1990 and since then has been called the European Chemical Industry Council. The acronym Cefic was retained. Cefic has 22 full members and six associated members.

Further information: www.cefic.org



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wagon or container during the process of unloading; (ii) ensure the closure of valves and inspection openings; The following note at the end of section d) (ii) is new:
«NOTE: The unloader shall establish procedures to check the correct functioning of the closures of the tank of a tank-wagon and to ensure the leak-tightness of the closing devices before and after filling. Guidelines in the form of checklists for tank-wagons for liquids, issued by the European Chemical Industry Council (CEFIC), are

available on the OTIF website (www.otif.org).»

What was the reason for this major amendment? The responsible inspectors and other participants had repeatedly discovered so-called drip leaks in tank wagons. This problem was hence submitted to the tank and vehicle technology working group. The industry under the CEFIC declared its willingness to produce a leaflet for fillers and unloaders. In the last meeting of the working group, the German delegation announced that it would present a report on the results of the research project on the problem of drip leaks commissioned by the Association of the German Petroleum Industry at the next meeting. In the meantime, the topic had already been dealt with at the joint conference, where various solutions were discussed in the tank working group and an alternative wording adopted for sub-section 1.4.3.3 f) and section 4.3.2.3.3 as an interim solution.

Useful checklists

This change of the wording in sub-section 1.4.3.3 f) and in section 4.3.2.3.3 of the RID will not be able to solve the problem of drip leaks permanently. But the checklists are by all means interesting. Every employee involved in the filling or unloading of tank wagons should be familiar with these.

CEFIC informed the working group that the German Chemical Industry Association had set up a working group on the problem of drip leaks on a national level.

The purpose of this working group, which includes representatives of the chemical industry and the mineral oil industry,

«But the checklists are by all means interesting. Every employee involved in the filling or unloading of tank wagons should be familiar with these.»

amongst others, is to examine the filling and unloading process in more detail. The CEFIC representative noted that the results of this investigation could possibly be used as a basis for the development of a guideline for fillers. ■

Checklist

These useful checklists for fillers and unloaders can be requested from infoletter@wascosa.ch by quoting «Checklist».



Progress made cleaning graffiti after 3 minutes

Cleaning graffiti from a passenger wagon coated with monochrome anti-graffiti top coat

Interesting facts

Graffiti protection for freight wagons

Graffiti is understood as meaning names, picture fragments and pictures applied to bases. The world's biggest graffiti object was the Berlin Wall. More than 20,000 illegal graffiti works are reported every year in the rail sector in Europe alone.

Illegal graffiti works always have one thing in common: they are made without the consent of the owner and are thus an offence, and they are expensive to remove. On freight wagons too.

Areas covered by graffiti on freight wagons with no anti-graffiti protective coating have to be refurbished with great effort through sanding down and the application of a new

coat of paint. In the time/costs comparison shown this high overall effort has been rated with 170%. This is why the market is looking for alternatives to save time and money.

Permanent anti-graffiti coatings have been in successful use for many years as protection against illegal graffiti, especially on passenger trains. These are usually so-called two-component systems.

In two-component systems, two different components (master paint and hardener) react with each other to form a new chemical compound that remains as a lacquer coating after the solvent has evaporated.

A big advantage of these two-component systems is their extremely good resistance to chemicals, cleaning agents, corrosive media and UV light.

Furthermore, these 2C lacquer systems have a very high surface hardness and surface abrasion resistance. They thus offer

«More than 20,000 illegal graffiti works are reported every year in the rail sector in Europe alone.»

optimum conditions for cleaning processes using chemicals and mechanical brushes.

An anti-graffiti wagon coating usually consists of:

- Primer (corrosion protection) – 2C epoxy lacquer system;
- Possibly a filler (as protection against stones and to smooth the surface), both 2C epoxy and 2C polyurethane lacquer systems;
- Basecoat as coloured coat, single or two-component lacquer system;
- Clearcoat (clear varnish) with anti-graffiti effect, 2C polyurethane lacquer system;

so that a total of 3 - 4 coating layers are used.

This coating design is time-consuming and expensive. Another potential for savings in future could be the use of a coloured top coat with an anti-graffiti effect. This would do away with the clear varnish or clearcoat layer.

This 2 to 3-layer design would save time and costs on freight wagons compared to a 3 to 4-layer design with anti-graffiti effect.

«It is estimated that the cost of removing all kinds of graffiti in Europe is more than 1 billion euros each year... and counting.»

The following cost/benefit analysis clearly shows the advantages of the 2 to 3-layer design with anti-graffiti effect.



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Summary

It is estimated that the cost of removing all kinds of graffiti in Europe is more than 1 billion euros each year ... and counting. The table below shows a low-cost alternative for a wagon coating with anti-graffiti protection. ■

		2 to 3-layer design		3 to 4-layer design with anti-graffiti effect
		without anti-graffiti effect	with anti-graffiti effect	
Without graffiti	Time	100%	100%	110%
	Costs	100%	110%	110%
	Total	200%	210%	220%
With graffiti and refurbishment	Time	170%	120%	130%
	Costs	170%	120%	130%
	Total	340%	240%	260%

«The criteria for assigning the management of our fleet of wagons to WASCOSA were the decades of experience and the great expertise of the company in hiring and managing freight wagons, reflected by a comprehensive and effective package of services.»

Uwe Klöpper,
Head of Purchasing/Sales Trade & Industry of Westfalen AG



«On account of positive experiences with WASCOSA we have now decided on WASCOSA in other fields and recently placed a big order to build new pressurized gas tank wagons for hiring, which were delivered a short time ago.»

Uwe Klöpper,
Head of Purchasing/Sales Trade & Industry of Westfalen AG

Retrospect – Outlook in the GCU

The continuous further development and adaptation of the GCUs is the result of changing economic, legal and technical parameters, for example the TSI Operation or the use of composite brake blocks. The necessary changes to the GCU were carried out as per 1.1.2013 and are introduced here in brief. An outlook on further topics is also presented.

Changes as per 1.1.2013

The introduction of Article 7.4 should make it easier for the operational personnel to act safely through a prompt notification of technical changes or innovations. The owners have to provide the rail transport companies with the necessary data in due time.

Article 14.2 and Enclosure 3 regulate the necessary synchronisation with the CUV consignment note.

Technical innovations are incorporated in the GCU in Enclosures 9 and 10, for

«Technical innovations are incorporated in the GCU in Enclosures 9 and 10.»

example the specification of damage codes and the introduction of composite brake blocks.

Changes as per 1.4.2013

As of 1.4.2013, damage up to 850 € (previously 750 €) will be repaired without the consent of the owner. The price rises of the past five years have thus been included and continue to ensure a fast return to operations of the wagons.

Outlook

Enclosure 5: Enclosure 5 is currently being revised together with ERFA, UIC and UIP. This will allow modernised wagons to be taken into better account, amongst other things.

Wagon numbering as of 1.1.2014: Through the Commission's resolution of 12 May 2011 and the last amendment on

«In future, the VKM (vehicle keeper marking) on the wagon will be the sole means to identify the owner.»

3.10.2012 relating to the technical specification for the interoperability of the sub-system «Transport Operation and Management» in the conventional, trans-European railway system, the first four digits in the system of wagon numbers has been changed, amongst other things, so that the current owner and/or country of origin cannot necessarily be identified on the basis of the wagon number, but only the country in which the wagon is registered. The wagon retains its «fixed» wagon number for its entire lifetime, unless it is technically modified. In future, the VKM



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(vehicle keeper marking) on the wagon will be the sole means to identify the owner. The measures to be performed are currently being defined.

ECM

In order to ensure the complete documentation of maintenance, all maintenance work and services will be communicated to the owner. A process to ensure the information is currently being discussed. ■



– The Association of the European Rail Industry

Founded 1992, UNIFE represents the European Rail Manufacturing Industry at European and International institutions. Based in Brussels, UNIFE's membership is comprised of over 80 large and medium-sized rail supply companies active in the design, manufacture, maintenance, and refurbishment of rail transport systems, subsystems, and related equipment. Additionally, one thousand suppliers of railway equipment partake in UNIFE activities through national rail industry associations. UNIFE members have an 80% market share in Europe and supply over half of the worldwide production of rail equipment and services.

Further information:
info@unife.org, www.unife.org

Through a combination of political advocacy initiatives and coordination of industry-wide research projects, UNIFE mobilises

«UNIFE mobilises the innovation potential of its members.»

the innovative potential of our members and ensures the continued advancement and competitiveness of the European rail industry.

UNIFE and Rail Freight

UNIFE supports rail freight at the political level by asking for a level-playing field with other modes of transport, promoting interoperability to make rail freight more competitive and attractive, advocating for rail freight corridors, and lobbying for more investment in rail infrastructure.

Currently, UNIFE is participating in two projects (SUSTRAIL and MARA-

THON) aimed at improving rail freight at the technical level and coordinating a major EU-Industry joint research initiative to stimulate rail innovation across the entire rail sector — SHIFT²RAIL. One of the five major innovation platforms of SHIFT²RAIL is focused on developing the high-tech, high performing freight train system of the future, with an improved environmental profile and a freight system adaptable for continuous technological improvements. ■

The 4 priorities of UNIFE

- Promote European policies favourable to rail
- Shape a European interoperable and efficient railway system
- Ensure European rail supply industry leadership through advanced research, innovation, and quality
- Provide UNIFE members with strategic and operational knowledge

New employees at WASCOSA



Benjamin Widrig, Operations / Planning Administrator
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Nadine Rohde, Finances & Organisation Employee
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Michael Achermann, Head of Controlling & Investor Relations
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Following a temporary job lasting a few months, Benjamin Widrig entered into full-time employment at WASCOSA at the beginning of September 2012. The all-rounder, who has already worked as a gardener, handyman, media composer and in various other professional fields in the course of his career, has three mother tongues – German, French and English. What he likes about WASCOSA is the international environment, though also the new challenges that arise every single day, making work so varied and diverse.

«There's a good climate at work and the strength of the team – particularly the tank wagon team – is very good. I feel very much at home and part of a big family», says Benjamin Widrig, who sees himself as able to work under pressure and solution-oriented. He goes on to add that it is a big stroke of luck and a great honour to have Rita Schwegler as a mentor, from whose decades of experience at WASCOSA he profits. ■

After Nadine Rohde had helped out temporarily at WASCOSA from May 2012 onwards in the «Contracts Management» project, she was given an 80-per-cent full-time job on 1 November in Finances & Organisation with a focus on the field of human resources. What's more, she is still involved in the «Contracts Management» project.

The trained travel agent, who is also qualified as an office administrator, came to Switzerland in 2010 after working for several years as an administrative clerk in a building company and was employed as an administrator at Heggli Carreisen before joining WASCOSA. There is a certain logic behind the path from travel agent, via a car company to WASCOSA: «The railway industry is much more diverse and interesting, and it's great being part of this company», says the dedicated specialist with a smile. She was received at WASCOSA as part of the big family and feels very much at home. ■

Michael Achermann joined WASCOSA as Head of Controlling & Investor Relations on 1 November 2012. Following a commercial apprenticeship and jobs in IT and sales, he went on to qualify as graduate business economist HF and completed a Masters in Controlling. Over the past 10 years he set up and further developed the Controlling Department at Geistlich Pharma AG in Wolhusen.

He sees himself as an all-rounder with an «eye for the big picture». Apart from the exciting controlling problems, what he really appreciates is the contact to WASCOSA's investors – and these in turn profit from his many years of experience in handling customers. Michael Achermann quickly settled in at WASCOSA and he appreciates the strong team spirit. «It's fun being part of the WASCOSA family and I enjoy being able to actively shape the company's development through my work.» ■

Calendar

2013

04.–07.06.2013 Munich (DE)	transport logistic	Info: Munich exhibition centre info@transportlogistic.de www.transportlogistic.de
10.–13.06.2013 Near Düsseldorf (DE)	ECM Competence Centre: 3 rd auditor training according to EU Directive 445/2011 and exchange of experience between auditors	Info: Cargo Rail Service Center e. V. info@crsc.ch www.crsc.ch
20.06.2013 Potsdam (DE)	11 th Technical Information Event of the VPI	Info: VPI Association of Private Freight Car Interested Parties mail@vpihamburg.de / www.vpihamburg.de
20.06.2013 Courbevoie (FR)	AFWP General Meeting	Info: AFWP Association Française des Wagons de Particuliers blaurent@afwp.asso.fr / www.afwp.asso.fr
21.06.2013 Potsdam (DE)	VPI Members Meeting	Info: VPI Association of Private Freight Car Interested Parties mail@vpihamburg.de / www.vpihamburg.de
26.06.2013 Brussels (BE)	UIP General Meeting & Workshop on Rail Transport Noise	Info: UIP International Union of Wagon Keepers a.i.s.b.l info@uiprail.org / www.uiprail.org
25.09.2013 Zurich (CH)	VAP Forum Sidings	Info: VAP Switzerland vap@bluewin.ch www.cargorail.ch
10.10.2013 Vienna (AT)	VPI Info Event 2013	Info: VPI Association of Private Freight Car Interested Parties office@vpirail.at / www.vpirail.at
10.–11.10.2013 Pilsen (CZ)	IBS Congress	Info: community of interest of railway forwarding agents redaktion-ibs@t-online.de / www.ibs-ev.com
07.11.2013 Zurich (CH)	VAP Forum Freight Car Autumn Conference	Info: VAP Switzerland vap@bluewin.ch www.cargorail.ch

2014

14.01.2014 Hamburg (DE)	4 th VPI Symposium	Info: VPI Association of Private Freight Car Interested Parties mail@vpihamburg.de / www.vpihamburg.de
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Credits

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Typical brake equipment in freight wagons

	Suitable for running class		Wheelset load max.	Brake percentage (λ)		Brake weight per axle max.	Brake percentage as function of wheelset load (simplified)	Load sensing equipment (weighing valve)	Typical applications
	S	SS		min.	max.				
Mechanical empty-/load change-over (load brake device)	●		20	65	125	65% bei 20 t RSL		without	Not for new wagons
Pneumatical empty-/load change-over	●		22,5	65	125	14,5 t		without/with	Tank wagons
Load-proportional brake adjustment per vehicle	●	● ¹⁾	22,5 (20) ²⁾	65	125	14,5 / 18 t		with	Open wagons (E...) Hopper wagons (F...)
Load-proportional brake adjustment per wheelset / bogie	●	●	22,5 (20) ²⁾	65	125	14,5 / 18 t		with	Sliding sid wagons (H...) Flat wagons (R...) Wagons for intermodal traffic (S...)

1) For certain 2-axle wagons only

2) Refer to UIC 541-04, attachment A

No guarantee for the figures and no claim to completeness.