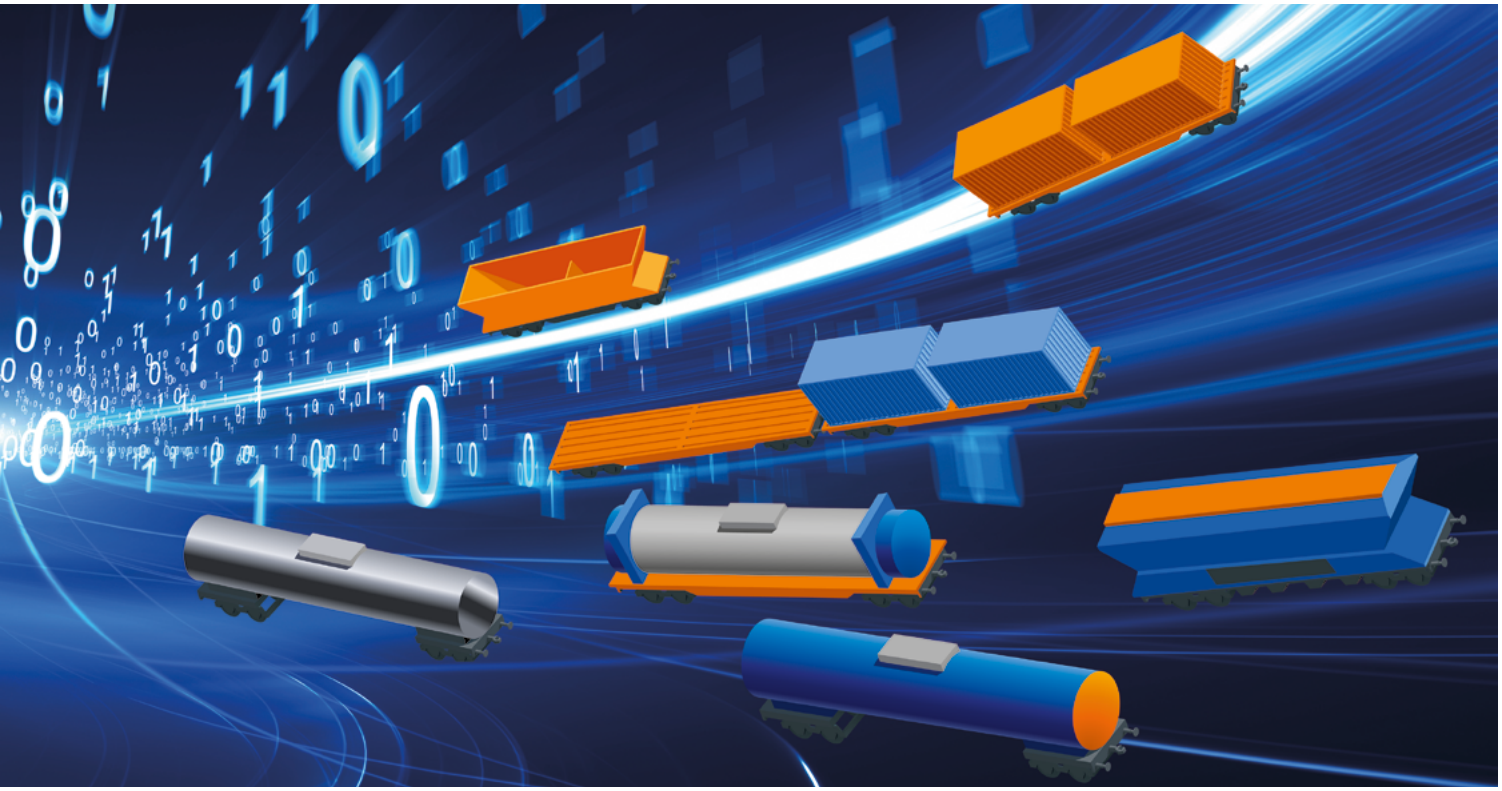
Edition 31 | May 2019

wascosa infoletter

Latest news for the freight wagon industry



# Optimal processes thanks to digital networking

Standardised electronic data and document exchange compliant with the VPI 08 Maintenance Guidelines benefits everyone: workshops, manufacturers, freight wagon lessees, investors and also Wascosa as a provider of freight wagon systems.

*by Sico Algermissen, CEO, Sternico GmbH*

Both during the construction of new freight wagons and during their maintenance in workshops, a vast amount of information is generated which the Entity in Charge of Maintenance (ECM) or wagon keeper requires. In the past, this information was usually provided on paper, and was not standardised. The lowest common denominator in the maintenance process was VPI paper protocols. These offered a standardised form of information interchange, but no digital communication.

Designing efficient processes, however, not only requires information but also standardised data, otherwise the information has to be manually typed or converted. This led to major inefficiencies and often inaccurate data, both in individual wagons and in the freight wagon system as a whole.

VPI 08 – the eighth module of the VPI Maintenance Guidelines – lays the founda-

*Continued on page 2*

## More Wagons More Ideas!





*Dear Reader*

*As provider of freight wagon systems, reliable partnerships are vital for us. They allow us to break into new territory, become more innovative and combine the best from different disciplines. Working with all parties involved, we are keen to find progressive solutions that increase productivity and functionality, improve efficiency and minimise costs.*

*Standardised electronic data and document exchange compliant with the VPI 08 Maintenance Guidelines benefits everyone: workshops, manufacturers, freight wagon lessees and investors. The lead article by Sternico (p. 1-3) highlights the advantages that digital interchange and standardisation offer for freight wagon use and what they mean for rail traffic safety. The new Tanpps hopper wagon with central and side discharge, developed in collaboration with our long-standing partner K+S, is another example of our successful collaboration with partners (p. 8-10). We would like to take this opportunity to thank all our partners for their vital contributions.*

*We are also demonstrating how our business is built on an innovative partner concept at this year's transport logistic trade fair. Come and visit us between the 4th and 7th of June and be surprised by our new stand design, the "Wascosa Village". We will be there alongside our partners and co-exhibitors not only showcasing new products, but also organising joint events under the slogan "More wagons – More ideas!" (p. 4-5).*

*The Wascosa team looks forward to seeing you in Munich, but first we hope you enjoy reading the latest edition of our Infoletter!*

Philipp Müller
Chairman of the Board of Directors

*All the information on the maintenance of freight wagons in the workshop ...*

*Continued from page 1*

tion for the required standardised digital exchange of wagon data. It defines and standardises the mapping of all wagon data in an XML data format. Wascosa intends to consistently use this standard and implement it by rolling out the COMAP software as the new central asset management system.

## The benefits of modern digital data exchange

Digital data exchange compliant with VPI 08 makes it possible to transfer the technical wagon information from the manufacturing stage directly into the ECM's asset management system. From there, the latest detailed wagon configuration is made available to the workshop in digital format for the next maintenance session. The workshop in turn sends the updated data back to the ECM after maintenance has been completed. This creates a closed data cycle in which each new piece of information only has to be entered once.

As well as the wagon configuration, information on the replacement of wheelsets and details of workshop in/out times are transmitted, along with all attachments such as photos or supporting documents. These are automatically read into COMAP, processed and forwarded to document management.

## Challenges during roll-out

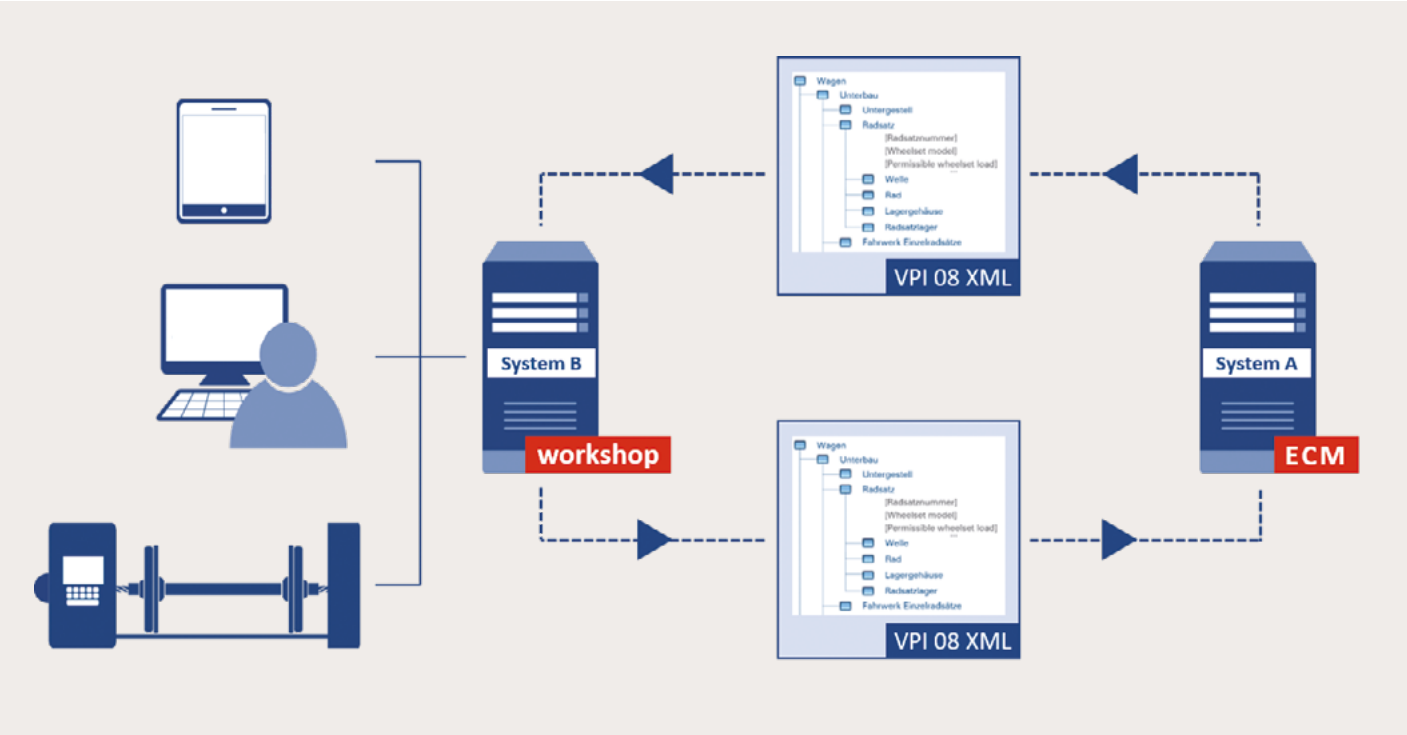
Two major challenges arose in the roll-out phase. The first was the existing wagon and maintenance data. Data technology did not start from scratch: the information from the past had to be available in the new COMAP system as well. Since VPI 08 primarily involves standardisation, extensive data migration was necessary.

The second challenge lies in the processes themselves. Digitisation inevitably means changing existing processes in order to achieve the desired efficiency gain. But it also requires more stringent processes, since there must be no room for ambiguity.

## Everyone is a winner

Digital networking and standardisation increase the efficiency of freight wagon use, data quality for maintenance and operation is continuously improving, process throughput times are decreasing, rail traffic safety is getting better, and sustainable business development is being encouraged. This will make the overall rail freight transport system more competitive in the long term, and will benefit all stakeholders – workshops, manufacturers, freight wagon lessees, investors and also Wascosa as a provider of freight wagon systems:

- Manufacturers can provide standardised wagon data independently of the customer and reduce the complexity for themselves.
- For workshops, data collection is much quicker when the wagon enters the workshop, since all known data is already available. Work preparation can be optimised and completion times reduced.
- For customers, the availability of rolling stock increases and, if required, all the necessary technical data is available to optimise logistical processes.




*... thanks to a closed digital data loop compliant with VPI 08 ...*

- Investors enjoy the best possible investment protection for their assets, as the wagons are maintained and managed to a high standard thanks to the excellent data and document quality.
- Wascosa can optimise and automate processes, thereby continuing to improve the quality of the service it provides to all its business partners. This ensures strong development of the business going forward.

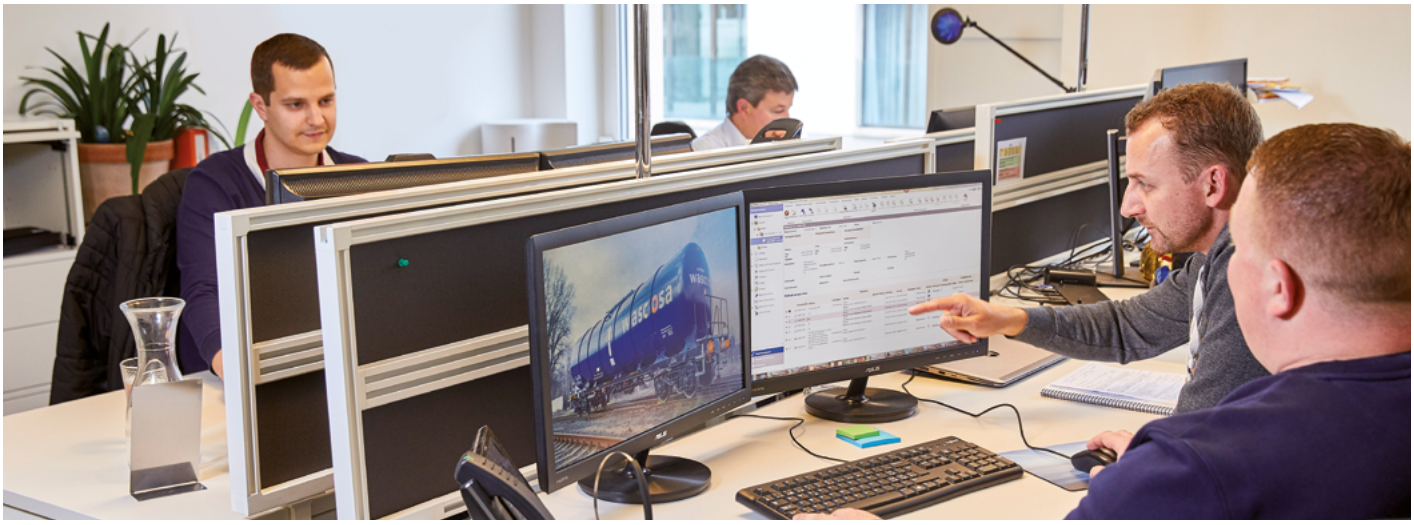
## What the future holds

The resulting digital networking must be used to optimise additional processes. The focus here is on «digital commissioning» between the wagon keeper and the workshop. A fully digitised process must be established: from the workshop's cost estimate to the wagon keeper's order and the invoice for the work carried out. The aim is to ensure that the process itself (e.g. approval of a cost estimate) is digital and the onward processing of individual data, such as individual billing items, is possible.

To achieve this goal, we must push ahead with the standardisation process. How is a cost estimate structured? Which digital invoice format should be used and does the industry rely here on existing standards, such as the Central User Guide for Electronic Invoicing in Germany (ZUGFeRD)? These questions need to be answered in collaboration with stakeholders.

## Would you like to know more?

Both Wascosa AG and Sternico GmbH will have an exhibition stand at the trade fair transport logistic in Munich on 4–7 June (see article on p. 4). At 4 p.m. on 5 June there will be a special event at the Wascosa stand for workshops and manufacturers on the topic of digital data exchange with Wascosa. If you are interested, please register for the event at **wascosa.ch/events/2019-workshop-event/**.



*... if readily available in real time to the ECM.*

# Wascosa and partners at transport logistic 2019, showcasing many innovations


Wascosa will be exhibiting at this year's international trade fair for logistics in Munich with a new, attractive concept for its stand: our "Wascosa Village" will not only provide visitors with an overview of the company's services and the ongoing development of the Wascosa flex freight system®, but will also be joining forces with its partners to present some exciting innovations. The slogan chosen for the trade fair sums it up best: "More wagons – More ideas!". Our stand is certainly worth a visit!

The transport logistic is held every two years in Munich. This time the trade fair, which is a hub for the global logistics industry, is opening its doors from the 4th to the 7th of June 2019. This will be the ninth time that Wascosa has attended, and is the ideal occasion to present the systematic expansion of its wagon fleet and hold special events to showcase the latest innovations and build its network of contacts.

## "Wascosa Village stands for openness, transparency and innovation"

Peter Balzer, CEO Wascosa, host "Wascosa Village"

***Mr Balzer, this is the ninth time Wascosa has attended transport logistic. How important is this trade fair for Wascosa?***

For us, transport logistic is an important opportunity to meet customers and other business partners so we can exchange ideas and hold interesting conversations. It is always a particularly pleasant event that gives us the chance to pause for a while and show everyone the hard work and new solutions that we have come up with over the past two years since the last trade fair in 2017. And obviously we also hope that our appearance and our events will find a positive echo in the rail freight market.

***Wascosa has developed a new stand design this year. What would you say are the highlights that visitors should make sure not to miss?***

Wascosa is in a state of continuous change. We have been on a consistent growth path in recent years and have focused more on the market and our customers – particularly given our new positioning as Europe's no.1 provider of freight wagon systems – as well as investing heavily in modernising our systems. The new design of our stand is intended to convey our openness, transparency and strong powers of innovation. The things we are showcasing – all of them innovative solutions that we are exhibiting in partnership with BASF, Hoyer, Van Hool, Sersa and K+S – are just as exciting as the partner events we are holding for workshops and wagon manufacturers, where we are collaborating with Sternico to show how we are digitising electronic data exchange with our business partners.

***You are including various industry partners in the Wascosa Village. What links these partners to Wascosa?***

The name "Wascosa Village" is meant to show that we develop and offer solutions in close collaboration with partners. We do not follow a supplier concept, but are committed to a genuine partner concept. We do not pretend that we can do everything best ourselves, but are convinced that the best solutions for the customer are achieved with the support of our partners.


## Wascosa Village: a podium for innovation

This year Wascosa will not only be presenting itself through a new stand design "Wascosa Village", which brings together BASF, Hoyer and van Hool as co-exhibitors as well as InRoll, Sternico and Sersa as important partners, but will also showcase several other innovative exhibits on a 50.5 metre track, as well as more new products. On top of that, three exciting events will offer a perfect platform for exchanging ideas and making contacts. Highlights include the innovative Tanpps hopper wagon developed in conjunction with K+S that offers both central and side discharging (see also p. 8). Wascosa is also committed to the industry standard VPI 08 for electronic data exchange and is looking forward to working with Sternico, partner workshops and wagon manufacturers to present the latest digital solutions to visitors (see also lead article, p. 1-3).

**"Wascosa Village" is located in the trade fair's outdoor area, stand 704/5 and on platforms 3/3. Tickets are available online.**

## transport logistic 2019: data

The international trade fair for logistics, mobility, IT and supply chain management is a business platform that offers the opportunity to swap ideas and experiences on the global logistics and transport industry.

Date:
4 – 7 June 2019

Location:
Trade Fair Centre Munich
You can access the «Wascosa Village» via the east entrance.

Opening times:
Tuesday to Thursday, 9 a.m. to 6 p.m.;
Friday 9 a.m. to 4 p.m.

Organiser:
Messe München GmbH,
Messegelände, 81823 München,
info@transportlogistic.de

For more information visit:
www.transportlogistic.de

## Our co-exhibitors 2019:

BASF We create chemistry

VANHOOL

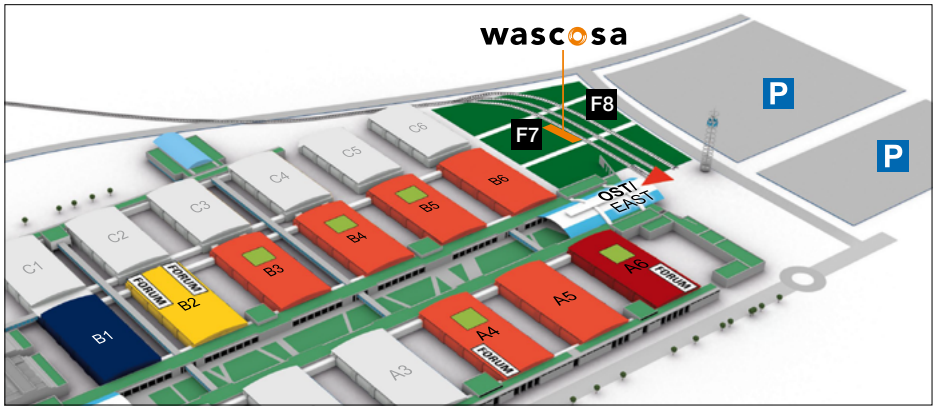
HOYER WHEN IT MATTERS

## Our partners 2019:

sternico DIGITAL. CHANGE. TOGETHER.

sersa Ein Unternehmen der RHOMBERG SERSA RAIL GROUP

INROLL



# Flexibility – new infrastructure train modules are a valuable addition to the Wascosa flex freight system®

Major construction works are planned for the rail infrastructure over the coming years. In Switzerland alone, for example, 18.3 billion Swiss francs will be invested in the 2025 and 2035 expansion phases. Rail-bound construction-site logistics play a key role in successfully completing the work, which often has to be done while trains are still running. Railway companies are therefore increasingly including this in their tendering process. Using multifunctional and multimodal freight wagons is one way to provide the necessary flexibility.

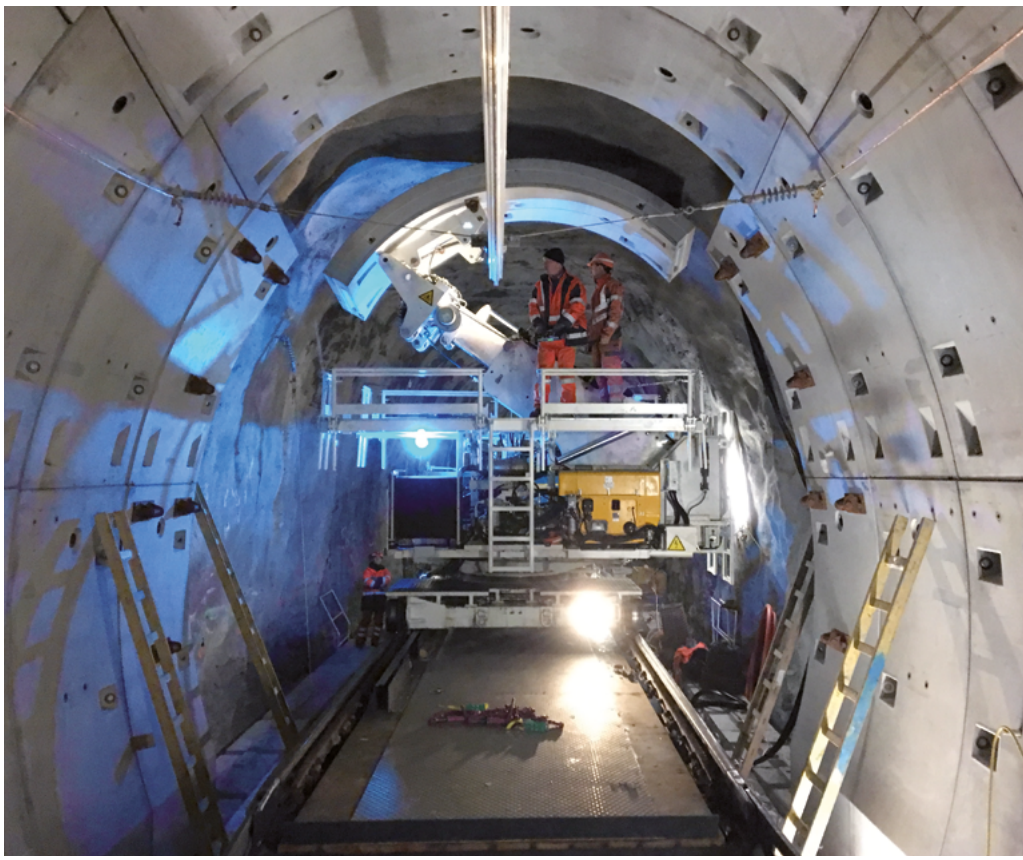
*Rudi Hoz, Sersa Schweiz, Head of Customer & Market Support*

Bulk goods transport for the supply and disposal of construction site materials should increasingly be carried out by rail. The Canton of Zurich, for example, wants the companies responsible for construction projects with more than 25,000 cubic metres of excavated material to be obliged to transport it by rail. In a similar vein, companies in the gravel and waste disposal industry are also increasingly looking for transport solutions by rail and/or intermodal transport.

Specialised freight wagons are generally used for this work which are only suited for a particular task. The availability of these dedicated wagons is important and can be problematic for Sersa Schweiz, as well as for other businesses and railway companies: there tends to be either too few or too many of the required type available. This prompted the idea of using multifunctional and multimodal freight wagons for construction-site logistics. The basic concept is a container wagon providing a platform on which, depending on the particular use, a wide variety of superstructures such as 20' low-noise aggregate containers, 20' dumping body containers, 20' flats with side walls for material and excavation transport, 20' flats with mobile crane superstructures, etc., can be mounted. The aim is to provide rail-bound construction site and bulk goods logistics configured around the type of the Wascosa flex freight system® developed by Wascosa.

## Base platform: Wascosa's 48' container wagon

The 48' container wagon developed by Wascosa proved to be the ideal solution. It was originally designed to cater for the needs of the chemicals industry, but is very well suited to the needs of track-based construction-site logistics for the following reasons:



*The expansion of Switzerland's rail infrastructure relies on efficient, rail-bound construction site logistics.*


*With its high payload and flexibility, the 48' container wagon satisfies all the requirements of rail-borne construction site logistics.*

Relatively short 4-axle wagon with a high payload:

- A high payload is important for the transport of bulk materials with a high specific weight, such as gravel, sand, excavated material, etc. The 4-axle design with two bogies makes this possible.
- A short wagon is an advantage, as often only short railway sidings are available at stations or construction sites.

Modern vehicle (low-noise brakes, maximum speed of 120 km/hr, etc.).

Thanks to flexible container pins, containers and swap bodies can be arranged differently on the wagon, providing greater flexibility.

## Basic concept for use

Because the wagon is so flexible in the way it can be used, only one wagon type is therefore necessary, and different containers or swap bodies can be mounted on it depending on the required application. This offers many advantages:

The capacity utilisation of the wagon can be significantly increased, resulting in a high degree of flexibility in use.

If construction sites require new equipment or transport containers, these can be quickly developed or adapted without the need for expensive and time-consuming development of new railway wagons.

The wagon is designed in such a way that various intermodal transport systems can be used:

- Transport of containers and swap bodies (from 10' to 40' length) – reloading with gantry crane or reach stacker.
- Transport of roll-off containers (ACTS containers) – Equipping the wagons with an appropriate adapter flat.
- Transport of swap bodies System Container Mover – Equipping the wagons with an appropriate adapter flat.

Combined transports are very effective for bulk cargo transports. This encourages other transports to be shifted to rail as well. Such traffic will also increase sharply in the surrounding agglomerations (transformation of entire neighbourhoods, concentrated construction, urban mining, etc.), as will traffic in connection with road construction sites or civil engineering projects.

## 48' container wagon as a starting point

The wagons already ordered from Wascosa provide the starting point for an open platform through which all interested companies can obtain services in the field of track-based construction-site logistics in a modular system (see **https://www.bauzug.info/**). With this option, companies can request the services they need directly online.

# New hopper wagon – Blue innovation on Europe's rail network

When Wascosa, in collaboration with its long-standing customer K+S, a leading German commodities group, began the development of a new hopper wagon over four years ago, neither partner imagined that the product of this collaboration would be so successful. In the meantime, the first Tanpps wagon types have already clocked up more than 33,000 kilometres, proving that they are fully capable of meeting all the challenges of heavy and continuous use. All 404 wagons in this series are due to be delivered by autumn 2019.

"Our expectations have been fully met," say Christian Koop and Jörg Issleib, K+S project managers, in praise of the joint project with Wascosa. The fact that such a high-profile a customer as K+S is so pleased with a wagon should not be taken as a matter of course. The company, which is active in salt and potash mining and has nine mines in Germany, transports around six million tonnes of its salt and fertiliser products by rail every year, most of them in bulk. One of the top priorities is to protect the high-quality products from moisture during transport.

## Stringent demands

K+S therefore drew up extremely detailed specifications for the new wagon design. In a nutshell, these require ensuring the optimum ratio between maximum payload and minimum wagon length, with the best possible discharge processes for the bulk products. Additional aspects include ease of operation, work safety and the alignment to the specific operating conditions at K+S. And one of the top priorities is to make sure all the wagon components are highly resistant to corrosion.

## Innovative solutions down to the last detail

To meet these strict demands, Wascosa had to come up with innovative solutions which were incorporated in the new Tanpps wagon series: from corrosion-resistant rubber roller springs and operating mechanisms to weight-saving aluminium roofs, food-grade interior coatings and discharge chutes able to swivel in three different directions. The new wagon encapsulates the perfect design to cater for all requirements. The optimisation is often found in the finer details. For example, a special angle of the hopper to the wagon body and the rounding of the hopper corners encourage smoother and faster discharge of the load. In addition, the entire series is equipped not only to comply with the anticipated noise reduction regulations with LL brake blocks that will become binding in the EU from 2021, but also has particularly low-noise DRRS bogies and 'whisper' brakes.

## Excellent performance record

Series delivery of the bulk goods wagon, which is manufactured by the wagon builder Niesky acting as general contractor, started in July 2018. Wascosa is a long-term partner of K+S, serving both as an ECM (Entity in Charge of Maintenance) and wagon keeper. The first wagons – which are fitted with standard GPS tracking – have since travelled 33,000 kilometres. "We are proud of our blue and orange wagons which we have developed in conjunction with Wascosa. Our "shared baby" has already passed its first big test with flying colours in our freight rail traffic across Germany, Austria and Italy," says Christian Koop from K+S. He continues: "The innovative concept of the swivelling and easy to operate unloading chutes has proved to be particularly effective. This allows the wagons to be unloaded flexibly and ergonomically under

*The Tanpps wagon offers fast unloading times and a high degree of flexibility, partly thanks to the unloading chutes that can swivel in three directions.*

the very different technical parameters of our customers on site. As the product flow is regulated directly next to the outlet, only one person is needed to supervise unloading. The technical design of the wagons has enabled us to reduce their life-cycle costs. The total number of wagons required could also be significantly reduced thanks to the innovation of the swivelling discharge chute and the associated flexibility of use. Because rail transport will remain the backbone of our supply logistics in the long term, its optimal design is also of considerable economic importance to us. The new Tanpps hopper wagons play an important role here."


# "I am a big fan of telematics"

Agnes Schneider recognised the potential of telematics early on: she specialised in the topic for her Bachelor thesis. In her role as Head of Rail Transportation Management at K+S, which looks after traffic with private rail transport companies (EVUs) and private freight wagons, she still believes the new technology offers major advantages. In this interview, she explains how she and her team benefit from telematics in their everyday activities.


***Ms Schneider, last year K+S had its new Tanpps hopper wagon equipped with telematics. Does this put K+S one step ahead of the competition?***

The main reason for our decision was that the use of telematics makes it possible to check the location of the wagons pretty much in real time. This allows us to track where our wagons are 24/7. Telematics also helps us to monitor transports and manage fleet availability. These applications, which are very important for us, definitely places us a big step ahead of many other wagon keepers. Wascosa, who was a "first mover" among the wagon keepers to start fitting telematics to its wagon fleet more than three years ago, is thus the ideal partner for us.

***How much does the data generated by the wagons help you in your everyday work?***

In the past we used to receive emails from our partner rail transport companies with details of where our wagons had come to a halt, for example. Now the wagon logs its own position with us directly via our dedicated platform, "NIC-place". This enables us to detect potential bottlenecks early on and offer replacement wagons where necessary. Telematics also helps us to reduce unloading times or inefficient idle times, and we can plan maintenance intervals proactively thanks to the availability of accurate operational performance data, such as mileage.

***What are the next steps in telematics planned for K+S?***

By the end of the year, all telematics data will be integrated into a new umbrella IT solution. By removing interfaces, we will benefit from greater transparency about transports and wagon assets. Greater use of geofencing will also provide us with even more accurate location details.

***Does a transparent logistics chain improve quality?***

Yes, significantly. Because improved transparency enables us to react more quickly in the event of a deviation in individual transports. Whereas we previously had to rely on external data from individual rail transport companies, in future we will process and analyse the data in our own system. This will allow us to identify weak points more quickly, recognise optimisation potential more clearly and identify possible solutions sooner.

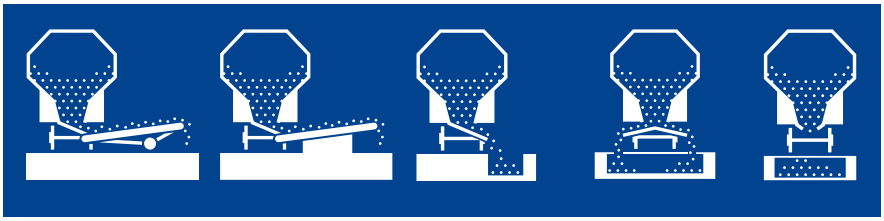

## About K+S

K+S sees itself as a customer-focused, independent supplier of mineral products for agriculture, industry, consumers and communities. K+S caters for the steadily increasing demand for mineral products, with around 15,000 employees based in production sites across Europe, North & South America and a global distribution network.

The Rail Transportation Management unit of K+S is responsible for the planning, transport allocation and monitoring of empty and full rail transports. It also handles the management of the private wagon fleet, which currently comprises around 750 bulk, tank and container wagons and is due to be expanded to around 900 wagons by the end of October 2019.

**Tanpps in figures**

| | |
|---|---|
| Length over buffers | 16.52 m |
| Axle load | 22.5 t |
| Volume | 74.3 m³ |
| Max. payload | 67.5 t |
| Max. speed | 120 km/hr |
| Minimum radius | 75 m |
| Length of loading opening | 13,200 mm |
| Width of loading opening | 1,200 mm |
| Bogie | DRRS 25L with CFCB compact brake unit |
| No. of discharge outlets | 4 with option of middle or side discharge |
| Discharge flap | flat flap that can be metered (operated from both wagon sides) |



# Mobile wagon maintenance: the way forward

Rail freight traffic needs to become more competitive. The maintenance of freight wagons can play a role here as well: technical defects must be avoided as much as possible to ensure smooth operation and at the same time keep the level of operational readiness of wagon fleets as high as possible. However, this can only be achieved by adopting a more preventive approach to the maintenance of freight wagons, and most importantly by ensuring the information on the technical condition of the wagons is brought up to the minimum level required for a modern fleet.

*by Sophia Höff, Press and PR Officer, waggon24 GmbH*

Rail transport has to compete with road freight, which is usually the dominant player. In 2017, for example, road transport accounted for 72% of freight traffic in Germany (source: Allianz pro Schiene / Pro-Rail Alliance). This is partly because trucks have a dense network of repair shops at their disposal that can offer rapid support. By contrast, rail freight transport has relatively few workshops, which in any case tend to be in unfavourable locations or not ideally positioned within the network. In order to compensate for this disadvantage at least partially, a system of small maintenance points or "pit stops" is needed, complemented by mobile maintenance while the wagons are in service.

At present, however, the focus is still on reactive maintenance procedures: producing a damage report and bringing the wagon to the workshop, followed by a delay of between two to four weeks before recommissioning. However, the maintenance of freight wagons must be geared to the operation of the railways and adapted according to wagon usage.

## Improve availability to more than 98%

Maintenance that is mobile and close to the customer is the best way of meeting this requirement. Wagon downtimes can be significantly reduced or even largely avoided. Through a system of preventive and reactive maintenance, and the use of mobile teams, wagon availability can be improved to well over 98%, depending on the wagon type and its area of operation. For the customer, this brings a clear increase in economic efficiency. Another financial advantage is that the transportation costs of the mobile units are significantly lower than the dead freight costs when the wagons are in transit to the workshop and back.

However, the streamlining of the rail infrastructure of the Deutsche Bahn network has removed many opportunities for rapid mobile maintenance. Every day it is becoming increasingly difficult to find a suitable place for essential repairs or maintenance of freight wagons. On top of that, access to rolling stock is also being made more difficult – or even impossible – due to a steady stream of new regulations. Here too, more thought needs to be given to the "track" aspect of the rail system.

## Digitised maintenance

One side of digitisation in rail freight transport is more effective management of the processes performed by the Entities in Charge of Maintenance (ECMs) and the interoperability of the management systems of maintenance companies, rail transport companies (EVUs), lessees and wagon keepers. The other side is the integration of the wagons into these processes through continuous monitoring of their condition, the recording of wear data and spontaneous damage. The following prerequisites are particularly important for effective planning of repairs and maintenance:

- The damage,
- Operating time,
- Operating location,
- Staff qualifications,
- Necessary materials and
- Tools and measurement devices.

Successful operation depends on the quality of this information. Due to lack of networking, however, these data are usually unavailable and moreover difficult to acquire.

Handwritten documentation and analogue processing of sensitive data also has the potential for errors. For us as a maintenance company that only offers maintenance with mobile teams or in pit


stops close to the place of operation, it is essential to digitise the internal process as much as possible. Our employees use tablets and other mobile devices for the digital exchange of data and information. We work on solutions for digital recording and documentation of the physical condition during wagon inspections or maintenance work using voice-controlled data glasses.

**Predictive maintenance plans ahead**

Predictive maintenance involves anticipating a potential defect in the wagon before it actually occurs, based on the current level of wear. Predictive maintenance planning allows operations to be carried out with foresight and even greater precision at a given point in time. Although a study by the ConMoto Consulting Group showed that the share of predictive maintenance so far only amounts to around 2-3% of the total maintenance performed, the conditions for this have never been better, especially thanks to a steady fall in the cost of sensors and measurement technology.

Telematics modules communicate with sensors and transmit technical data on the current condition of the freight wagon. The condition of the components can be assessed by diagnostics systems. In addition, the modules provide data on the location and load status of a wagon. This information is also important for mobile maintenance, it is vital for ensuring that mobile teams are deployed effectively and even short wagon idle times are used for maintenance.

This is the only way to meet the requirements of EU Regulation No. 445/2011, which make it the task of entities in charge of maintenance (ECM 3) to fully commission maintenance. And this is the sole way to improve rail freight traffic reliability and availability, in other words to make it more economical and better able to compete with road freight in the future.

# RID 2021: Intermediate inspections of tank wagons and their continued use after the expiry of inspection periods

Poland's proposal at the last RID/ADR/ADN Joint Meeting regarding paragraph 4.3.2.3.7 was so minor that it seemed no more than a clarification. However, its adoption would have led to a severe tightening of the existing practice.

*By Ernst Winkler, chartered engineer (Dipl. Ing. FH), CEO of GEFAG Gefahrgutausbildung und Beratung AG*

Paragraph 4.3.2.3.7 amended on 1 January 2017 allows tank wagons to be offered for carriage for an additional month after the expiry of the next periodic inspection. At its meeting in Bern in March 2019, the Working Group on Tanks discussed a new proposal from Poland. The amendments and additions, underlined in bold below, are as follows:

Paragraph 6.8.2.4.3 of the Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) allows the **intermediate inspection** of tank wagons to be deferred by up to three months without affecting the date of the periodic inspection. Poland's proposed amendment therefore prompted the following discussion: Is it now **only permissible to defer the inspection, or may the tank wagon still be used (i.e. filled and emptied) during this period?** – According to the current interpretation, the three-month deadline for carrying out the intermediate inspection ensures that the tank wagon can still be used without restrictions during this period. The adoption of the proposed amendments would have meant that it would only have been possible to carry and empty tank wagons (and all other types of tank). This would have resulted in a substantial tightening of current practice. For the time being, the Joint Meeting agreed to place square brackets around the texts dealt with in the Working Group on Tanks. This means that they will have to be dealt with and discussed again at the next meeting. They do not appear in the report of the adopted texts on RID 2021.

4.3.2.3.7 Tank-wagons, demountable tanks, battery-wagons (RID)/Fixed tanks (tank-vehicles), demountable tanks, battery-vehicles (ADR), tank-containers, tank swap bodies and MEGCs may not be filled or offered for carriage after the specified date for the inspection required by 6.8.2.4.2 (general periodic inspection), 6.8.2.4.3, 6.8.3.4.6 (periodic inspection for Class 2 substances) and 6.8.3.4.12 (elements and equipment). However, tank-wagons, demountable tanks, battery-wagons (RID)/Fixed tanks (tank vehicles), demountable tanks, battery-vehicles (ADR), tank-containers, tank swap bodies and MEGCs filled prior to the specified date of the last inspection may be carried:

(a) for a period not to exceed one month after the **specified date for the last periodic inspection;**

(b) unless otherwise approved by the competent authority, for a period not to exceed three months after the **specified date for the last periodic inspection** in order to allow the return of dangerous goods for proper disposal or recycling. Reference to this exemption shall be mentioned in the transport document;

(c) **for a period not to exceed three months after the specified date for the intermediate inspection as specified in 6.8.2.4.3.**

# International freight wagon markings from a to s

Up to the middle of the 20th century, most national railway companies in Europe had their own classification systems for freight wagon classifications. It was not until the 1960s that the International Union of Railways (Union internationale des chemins de fer, UIC) developed an international marking system to facilitate loading and cross-border operation.

This marking system, dating from 1960, is still in use today as the basis for all freight wagons used in international traffic. Nowadays, however, it is no longer the UIC that is responsible for issuing and updating the standards, but the Intergovernmental Organisation for International Carriage by Rail (OTIF). The following table of identification markings, whose lower-case letters a to s stand for various (technical) characteristics of the freight wagons, as well as the respective upper-case category letters (see p. 16), are also based on their Uniform Technical Prescriptions (UTP) from 2015[1].

| Index letter [2] | Meaning |
|---|---|
| **a, aa, aaa** | Number of axles: (a) 3 [O], 4 [E,F,G,H,I,T,U,Z], 6 [S] axles; (aa) more than 6 [E,F,G,H,T,U,Z] or more than 8 [S] axles; (aaa) 4 axles (2 bogies of 2 axles [S]) |
| **b, bb** | Large-capacity wagons with axles and higher loading capacity [F] and/or inner lengths [G,H,R,T] or floor areas [I]; (b) flat wagons with long stanchions [K], special fitting for securing containers [L,S] or oil products [Z]. |
| **c, cc** | (c) bottom flaps [E], with swivelling bolster [L,S], rear doors [H,T], meat hooks [I], unloading under pressure [U,Z] or controlled gravity (c) at the top or (cc) bottom [F]; (cc) fitted internally for the transport of motor cars [H] |
| **d, dd** | (d) bottom flaps [H], equipment for fish [I], food and chemical products [Z]; for the transport of motor cars, without deck [L,S]; controlled gravity unloading (d) at the top or (dd) bottom [F,T] or (dd) with floor traps [H] |
| **e, ee** | (e) 2, (ee) 3 or more units [H], (e) electric ventilation [I], hinged side walls [R], unlocked door height [T], with decks for the transport of cars [L,S], fitted with heating devices [Z] |
| **f, ff, fff** | Suitable for traffic with Great Britain [F,H,I,L,O,S,T,U,Z]: suitable for (f) tunnel and ferry, (ff) for tunnel exclusively or (fff) train-ferry exclusively |
| **g, gg** | Cargo: (g) Cereals [G,H,T,U], containers [K,L,R,S], gases under pressure [Z], (gg) cement [H] or containers over 60 feet [S]; [I]: Mechanical refrigeration (g), refrigerator with liquefied gas (gg) |
| **h, hh** | Equipment: (h) for fruit and vegetables [G,H], thermal insulation [I], for the transport of steel coils (h) eye to side or (hh) eye to sky [H,L,S,T]; for artificial fertiliser [H] |
| **i, ii** | (i) opening or sliding walls [H,T], (i) mechanical refrigeration by (ii) the machinery of an accompanying technical wagon [I], (i) removable cover and non-removable ends [K,L,S], transport of oversized objects [U], tank of non-metallic material [Z] or (ii) very robust walls [H] or metallic cover [L,S]. |
| **j** | Shock-absorbing device [K,L,R,S,T,Z] |
| **k, kk** | Lower load limit than normal [3] |
| **l, ll** | (l) without lateral tilting [E], less than 8 ventilation apertures [G], thermal insulation without ice bunker [I], without stanchions [L,O,R,S], with movable (l) and lockable (ll) partitions [H]; (ll) without floor flaps [E], enlarged door opening [G], bulk gravity unloading (l) top or (ll) bottom [F,T,U]. |
| **m, mm** | (m) maximum internal length [E,G,H,K,L,O,R,S,T] or floor area [I] or (mm) minimum internal length [E,H,S] or floor area [I] |
| **n** | Higher load capacity than normal[3] |
| **o, oo** | (o) without rear tipping [E], non-removable side walls [K], loading capacity over 70m³ [G,H], with ice bunkers of capacity less than 3.5m³ [I], axial bulk gravity unloading (o) top [T,F,U] or (oo) bottom [T,F,U]; non-removable ends (o) less than 2m high or (oo) 2m high or higher [R]. |
| **p, pp** | (p) without [K,L,S] or (pp) with removable side walls [K,R]; (p) without gratings [I], with station for brakeman [E,G,H,Z,F (ppp)], without folding ends [R], axial controlled gravity unloading (p) top or (pp) bottom [F,T,U] |
| **q, qq** | Pipe (q) and installation (qq) for electric heating which can be supplied by all accepted currents |
| **r, rr** | (r) articulated wagon, (rr) multiple wagon (see footnote 3 on p. 16) |
| **s, ss** | Traffic licensing: (s) Vmax = 100 km/h resp. (ss) Vmax = 120 km/h |

[1] *http://www.otif.org/fileadmin/user_upload/otif_verlinkte_files/06_tech_zulass/05_Reglementation_en_vigueur/Neu_ab_01_01_2015/UTP_MARKING_2015_e_in_force.pdf*

[2] *The meaning of index letters a to s is set as an international standard. The meaning of index letters t to z can be defined by the individual national railway companies.*

[3] *Depending on the number of axles, certain load limits are regarded as «normal cases». All deviations from these are expressed by the code letter n for a larger load limit. For the exact load limits of the individual freight wagon categories, please consult the complete version of the ETV Marking 2015.*

The list of **category letters** that indicate the type of goods wagon (such as "Z" for tank wagons), can be found on p. 16.

On the last page we also look at two examples and how the marking can be decoded with the help of our tables.

# New flexibility for LKW Walter

LKW Walter, the European specialist in intermodal freight traffic, is openly committed to combined transport and in pursuing its growth strategy decided to lease pocket wagons directly from Wascosa. The last of one hundred T3000 wagons were delivered in December 2018. In future, LKW Walter will deploy these pocket wagons in its block trains in the corridor between Germany and Romania.

*Sitting, left to right: Karl Schauer (LKW Walter) and Ole Nygaard (Wascosa).*
*Standing, left to right: Felix Baumgartner, Helmut Eder, Jakob Schobesberger (all LKW Walter), Philipp Müller (Wascosa) and Andreas Ehrenhöfer (LKW Walter).*

After extensive research, LKW Walter decided in 2017 to lease pocket wagons directly for the first time in the company's history. Karl Schauer, Deputy Chairman of LKW Walter, is delighted that the successfully implemented plan will now make daily operations more flexible: "Following detailed analysis and the go-ahead to implement our plans, the decision to opt for Wascosa as the ideal partner for the leasing deal was made relatively quickly. We had already gained valuable know-how through open collaboration that enables us to continue to consolidate and expand our strong position in the intermodal business."

"The leasing of one hundred T3000 wagons is the optimal commercial setup for us: it allows us to offset any bottlenecks among our rail partners and thus stabilise capacity for our customers. For LKW Walter, this is yet another milestone in the development of combined transport that we have been driving forward for over 30 years," says Karl Schauer, pointing out the benefits of leasing the pocket wagons.

### About LKW Walter

Family owned since its foundation in 1924, LKW Walter is the leading transport organisation for European full truck loads. The company organises more than 1.45 million full truck loads every year. It employs some 1,750 people on the road and in intermodal transport across the whole of Europe and to/from Russia, Central Asia, the Middle East and North Africa. More information: **www.lkw-walter.com**

# European Maintenance Guide picks up speed

When the siding contracts with state railways for private freight wagons were abolished and the General Contract of Use for Wagons (GCU) came into force in 2006, private wagon keepers had to agree on new regulations governing the maintenance of their freight wagons. Various companies and authors collaborated on the first edition of the VPI Maintenance Manual at the time. Wascosa, represented by Irmhild Saabel, was one of the contributors to the manual, which has since become the standard across Europe.

In the first edition of the manual, the authors at the time, the VPI Technical Committee, were still heavily oriented towards Deutsche Bahn's regulations, which before the GCU came into force also applied to the maintenance of private freight wagons (since discontinued in Germany). In 2006, each member of the Technical Committee took over the preparation of at least one module. Wascosa was responsible for producing the first version of the most complex topic apart from the freight wagon brakes: the maintenance of wheelsets.

In the meantime, there is an extended circle of technical authors who ensure that the manual is continuously developed to a high professional standard. The original seven modules have been supplemented by one module for non-destructive testing and one for electronic data exchange (VPI 08), and have already been published in twelve languages. Today, Wascosa is a member of the VPI 08 Working Party and is collaborating with other VPI members on the fundamentals for the successful digitisation of the management of freight wagon maintenance.

The VPI Maintenance Manual has been published by three "theoretically equal" associations since its inception: VPI Germany, VPI Austria and VAP Switzerland. The three associations are currently working intensively on the internationalisation of the VPI Maintenance Manual. Unfortunately, the representatives of VPI Germany did not agree to the manual being renamed the "UIP Instandhaltungsleitfaden / Maintenance Guidelines" as proposed by the representatives of VPI Austria and VAP Switzerland. This can be seen as a missed opportunity to move the sector forward together and to strengthen UIP, the European umbrella organisation for wagon keepers. From now on, the official title will be "VPI European Maintenance Guide VPI-EMG".

# Calendar of events

| Date | Event | Location | Website |
|---|---|---|---|
| 03. - 05.06.2019 | 1st Congress of Digital Intelligent Railway (DIR) | Brussels, BE | dir.international |
| 04.06.2019 | Rail Freight Group Conference | London, UK | rfg.org.uk |
| 04.06.2019 | UIC Market Place Seminar | Munich, DE | marketplaceseminar.org |
| 04. - 07.06.2019 | Transport Logistic | Munich, DE | transportlogistic.de |
| 12. - 14.06.2019 | UNIFE General Assembly | Dublin, IRL | unife.org |
| 13.06.2019 | AFWP General Assembly | Paris, FR | afwp.asso.fr |
| 16. - 20.06.2019 | XIX International Wheelset Congress | Venice, IT | iwc2019.com |
| 17. - 19.06.2018 | VDV Annual Conference | Mannheim, DE | vdv.de |
| 18. - 20.06.2019 | Multimodal Exhibition | Birmingham, UK | multimodal.org.uk |
| 18. - 20.06.2019 | 5. UIC Security Week | Paris, FR | events.uic.org |
| 26.06.2019 | VPI Get Together | Berlin, DE | vpihamburg.de |
| 26.06.2019 | UIP General Assembly | Berlin, DE | uiprail.org |
| 26.06.2019 | VPI/UIP Symposium «Keeper's summit» | Berlin, DE | vpihamburg.de |
| 27.06.2019 | 20th technical information event (TIV) | Berlin, DE | vpihamburg.de |
| 27.08.2019 | CRSC information event | Bremerhaven, DE | crsc.eu.com |
| 28.08.2019 | CRSC General Assembly | Bremerhaven, DE | crsc.eu.com |
| 23. - 25.09.2019 | 14th International Conference on Critical Information Infrastructures Security (CRITIS) | Linköping, SE | critis2019.on.liu.se |
| 01. - 02.10.2019 | Railway Forum | Berlin, DE | railwayforumberlin.de |
| 16. - 22.09.2019 | European Mobility Week | Europe | mobilityweek.eu |
| 06. - 09.10.2019 | 53. EPCA Annual Meeting | Berlin, DE | epca.eu |
| 10.10.2019 | Accelerate Rail Infrastructure | London, UK | marketforcelive.com |
| 05. - 07.11.2019 | Intermodal Europe | Hamburg, DE | intermodal-events.com |
| 05. - 07.11.2019 | 7th International Transport & Logistics Exhibition | Warsaw, PL | trans-poland.pl |
| 12. - 14.11.2019 | Innorail 2019 | Budapest, HU | innorail2019.hu/en/ |
| November 2019 | Railtech Intelligent Rail Summit | not yet defined | events.railtech.com |



**Impressum**

| | |
|---|---|
| Publisher | Wascosa AG, Werftestrasse 4, 6005 Lucerne, Switzerland |
| Contact | T +41 41 727 67 67, infoletter@wascosa.ch |
| Concept, text and design | Taktkomm AG and Wascosa AG |
| Translation | Graeme High, Edinburgh |
| Printing | Druckerei Ebikon AG |
| Print run | 4,800 copies |
| Produced | Appears twice a year in German and English |
| Photos | Wascosa AG; InRoll AG; iStock; Sternico GmbH; Sersa Schweiz; K+S; Helmut Heiderich; Henning Pietsch, Taktkomm AG; waggon24 GmbH |
| Copyright | Wascosa AG |

# Understanding the meaning of international markings for freight wagons

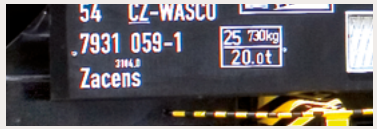
The designation of freight wagons in the UTP[1] marking is regulated internationally[2]. The marking consists of an upper-case initial "category letter", which stands for the type of construction or type of freight wagon (see table below), and one or more lower-case «index letters», which describe the (technical) characteristics of the freight wagons and follow the category letter in alphabetical order. (The meaning of the lower-case index letters is explained in the table on p. 13.)

**Table: Overview of category letters for individual wagons with an ordinary or special construction** [3]

| Category | | Freight wagon type |
|---|---|---|
| E |  F  | Open high-sided wagon (E: ordinary type / F: special type, bulk freight wagon in the image) |
| G |  H  | Covered freight wagon (G: ordinary type / H: special type) |
| I |  | Temperature-controlled wagon |
| K |  L  | 2-axle flat wagon (K: ordinary type / L: special type, for transporting cars in the image) |
| O |  | Mixed flat and open high-sided wagon |
| R |  S  | Flat wagon with bogies (R: ordinary type / S: special type) |
| T |  | Wagon with opening roof, hopper car in the image |
| U |  | Special wagon, silo wagon for powdery goods in the image |
| Z |  | Tank wagon |

The following examples explain how to decode **international freight wagon markings:**

**«Zacens»**




- **Z** Tank wagon
- **a** with 4 axles
- **c** unloading under pressure
- **e** fitted with heating devices
- **n** with a load limit of > 60t
- **s** maximum speed of 100 km/hr permitted

**«Sdggmrss»**


- **S** Flat wagon with bogies of special type
- **d** fitted out for the transport of motor cars, without deck or
- **gg** fitted for the transport of containers, total loading length > 60 feet
- **m** with a maximum internal length of 27m
- **r** articulated wagon
- **ss** maximum speed of 120 km/hr is permitted

*1 UTP stands for Uniform Technical Prescriptions*

*2 http://www.otif.org/fileadmin/user_upload/otif_verlinkte_files/06_tech_zulass/05_Reglementation_en_vigueur/Neu_ab_01_01_2015/UTP_MARKING_2015_e_in_force.pdf*

*3 The articulated wagons or multi-part wagons shall be designated by the same category identification letters as those of the individual vehicles. However, some of their identification letters have a different meaning (see UTP Marking 2015).*